

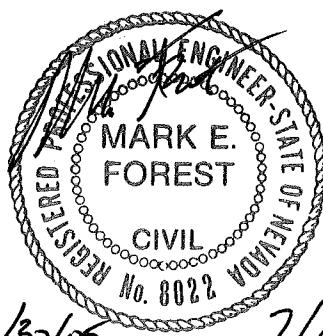
Truckee River Floodplain Flood Storage Impact Analysis

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Exp 6/30/05 *7/29/03*

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WRC File: 3096

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1.0 INTRODUCTION AND PURPOSE

1.1 INTRODUCTION

This report was prepared for the purpose of presenting the results of an analysis of impacts to the Truckee River floodplain that could result from removal of flood storage volume within certain areas of the floodplain. The need for the analysis arose out of the development of interim water planning policies by the Regional Water Planning Commission. The Truckee River floodplain in the lower Truckee Meadows encompasses a very large area where significant overbank storage of flood volume occurs. After construction of the Truckee Meadows Flood Control Project, many of these areas will be removed from the floodplain. However, in the interim, development is likely within these areas that could impact water surface elevations. Development within areas that will be removed in the future will have a temporary impact. Development in areas that will remain in the flood pool will have an impact to the proposed project and properties that will remain in the floodplain.

This report presents the results of an analysis of the impacts of development within various areas of the floodplain to determine relative sensitivity of placement of fill for development will have on storage impacts, water surface elevations and downstream peak discharges.

1.2 DESCRIPTION OF PROJECT AREA

The project area is located on the east side of the Truckee Meadows and consists of portions of the Cities of Reno and Sparks as well as parts of unincorporated Washoe County as shown in Figure 1. The study area is impacted by several watercourses that join the Truckee River as it leaves the Truckee Meadows and enters the downstream canyon. The watercourses that join the Truckee River in the study area include; Steamboat Creek, North Truckee Drain, Boynton Slough and several smaller unnamed smaller drainage areas. The Truckee Meadows is a wide shallow sloping alluvial plain.

The Truckee River 100-year floodplain impacts a variety of land uses as can be seen in Figure 2. The floodplain inundates areas with industrial and commercial development, the Reno-Tahoe International Airport, residential areas and the University of Nevada agricultural experiment station. In some areas the depth of flooding exceeds 20 feet. As a result of the large area flooded in extreme events, there is a significant volume of water temporarily stored in the floodplain as it is metered into the downstream canyon. This condition results in significant attenuation of flood flow peak discharges as these watercourses combine in this area. The impact of encroachment is to reduce the volume of water stored in this area. This reduction in flood storage volume has the potential to alter the flood flow dynamics of this reach of the Truckee River.

1.3 PURPOSE

The purpose of this study is to estimate the impact of development that could occur on undeveloped parcels in the sensitive parts of the floodplain where significant storage occurs during a 100-year event. The potential timing of development or other development related constraints were not evaluated. Therefore, the development potential represented in this study is for the purpose of determining sensitivity to these types of changes and is not intended to represent a specific planning horizon.

1.4 STUDY LIMITATIONS

This study was prepared for the limited purpose of presenting the results of the flood storage impact sensitivity analysis for this reach of the Truckee River. This report does not consider other mitigation options that may be required as a result of development review processes. This report is also based upon approximate data for the tributary drainage hydrographs that are in the process of being refined through additional hydrologic modeling by the Corps of Engineers (COE). Such changes in hydrologic data could result in changes to the results presented in this report. This report should not be relied upon for any other purpose other than those explicitly stated herein, without written confirmation from WRC Nevada, Inc.

2.0 BACKGROUND

2.1 PREVIOUS STUDIES

Although there are several previous floodplain related studies that have been performed for the project area, the most significant previous study is the Truckee Meadows Flood Control Project currently underway by the Corps of Engineers, the local project sponsors and the Truckee River Coalition. Efforts associated with this project have included detailed hydrologic and hydraulic models prepared to represent the existing and project conditions. These analyses were performed by WRC Nevada, Inc. in collaboration with the Corps of Engineers Hydrologic Engineering Center (HEC). This effort resulted in the preparation of a detailed one-dimensional, unsteady flow hydraulic model using HEC-RAS 3.1. This model was calibrated using data from the 1997 flooding event with very good correlation to the observed data. This unsteady flow model is able to evaluate changes in storage characteristics and is well suited to the task of evaluating impacts to the overbank storage that could result from encroachment as a result of site development.

2.2 TOPOGRAPHIC DATA

Topographic mapping for the project site was prepared for the Corps of Engineers as a part of the Truckee Meadows flood control project. The topographic data was provided as digital terrain model with a two foot contour interval accuracy. The model was prepared as a triangulated irregular network (TIN) and used for the purpose of pre- and post-processing topographic data and floodplain mapping data to and from ArcView using the GEO-RAS extension developed by the Corps of Engineers Hydrologic Engineering Center (HEC).

2.3 ANALYSIS CRITERIA

The following analysis criteria assumptions were used for this analysis:

1. The analysis is to be based on a 100-year event as defined by the Corps of Engineers through statistical analysis of gage data recorded over the last century.

2. Land use changes to be incorporated into the analysis were constrained to lots that were currently undeveloped. It was assumed that these parcels would be filled to the 100-year water surface elevation to remove them from the floodplain. This assumption is conservative. It is more likely that the building footprint and a portion of the area around the building would be filled to these elevations and the remaining portion of the parcel would be inundated during a 100-year event. However, it is also possible that some developed lots within the study area would also be modified with additional fill and building expansions that could also result in displacement of flood storage volume.
3. Changes that result from fill and encroachments were represented in the HEC-RAS model through changes to the stage-storage relationships of each storage area.

3.0 HYDROLOGIC ANALYSES

3.1 SELECTION OF HYDROLOGIC DATA

Data developed by the Corps of Engineers Sacramento District office were used to develop approximate hydrographs for each contributing area. The volume and hydrograph statistics for the Truckee River are reasonably defined through statistical analysis of the gage data collected for over 80 years at the sites located at the upstream boundary of the study area (Truckee River at Reno, USGS Gage 10348000) and at the downstream boundary of the project area (Truckee River at Vista, USGS Gage 10350000). The other watercourses in the project area do not have a sufficient data record to allow similar analyses for those streams. Therefore, approximate hydrographs were developed based on previous HEC-1 models developed by the COE. The volume of the tributary hydrographs combined are equivalent to the volume difference between the two gages located at the upstream and downstream ends of the study reach.

It should be noted that the tributary drainages do not produce 100-year peak discharges from those individual watercourses during a 100-year event on the Truckee River. The type of event that would produce 100-year peak flows on the tributaries would be different than the type of event that causes a 100-year event on the Truckee River.

3.2 HYDROGRAPH DATA

The inflow hydrographs described in Section 3.1 are contained in the associated DSS file included on the CD included with this report. Each of the Truckee River and tributary hydrographs included in the existing condition 100-year model are plotted and included in Appendix A.

The COE is currently revising the hydrologic models for the Truckee Meadows area. The results of these analyses may need to be incorporated into the HEC-RAS model for the Truckee River existing 100-year conditions. Such changes to the hydrologic data could result in changes to the results presented in this report.

4.0 HYDRAULIC ANALYSES

4.1 SELECTION OF HYDRAULIC MODEL

HEC-RAS (VER. 3.1) was selected as the best tool currently available for performing the analysis of the Truckee River by the project team. HEC-RAS was selected because of its ability to perform unsteady flow analysis and its ability to model complex flow exchanges that occur on the Truckee River between the main channel and its adjacent overbanks over levees and roadways, through culverts and as separate flow paths that are interconnected and influence one another. The analysis is based on the following assumptions and boundary conditions:

- The flow regime is evaluated as a subcritical analysis.
- Flow depths at the first section are based on critical depth across an in-line irrigation diversion weir crossing the Truckee River in the canyon downstream of the Truckee Meadows, commonly referred to as the Perry Ranch diversion.
- Base flow is added to the Truckee River flow and each tributary to allow the model to stabilize at the beginning of the model simulation period.
- Small amounts of initial storage volume was added to each storage area to prevent rapid changes in depth in the storage areas at the beginning of the simulation to improve model stability.
- A pilot channel with a base flow of 100 cfs was added to the overbank reach in the north overbank of the Truckee River to provide model stability. A negative 100-cfs is used in the receiving storage area to provide for volume conservation.

4.2 EXISTING CONDITIONS ANALYSIS

The existing conditions model developed for the Truckee Meadows flood control project was used for the baseline condition in this analysis. The existing conditions analysis is based on 1998 land use conditions.

4.3 ENCROACHED CONDITION ANALYSIS

The criteria used for determining areas of potential fill in the existing floodplain was based on the assumption that either entire parcels that are currently undeveloped or parcels for which there are large unused blocks of land, were considered in the analysis. The purpose of the analysis was to evaluate the relative impacts of maximum potential fill in the floodplain. This analysis was not intended to be a precise evaluation of a particular development plan for any of the parcels included in the analysis. Existing developments were assumed to remain and large blocks of land without current permanent uses were considered to be filled above the floodplain elevation. These assumptions are conservative for the following reasons:

- Some parcels are located within the existing regulatory floodway as shown on the current FEMA Flood Insurance Rate Maps. Therefore, these parcels can not be filled to this extent until these parcels are eliminated from the floodway.
- The entire parcel is not likely to be filled when developed. Only the building pad is likely to be elevated to this extent. There lots or portions of lots assumed to have development potential are shown on Figures 3 through 7. The changes to the storage area volumes resulting from these assumptions are summarized in Appendix B.

Some additional encroachment in developed parcels is also possible. However, the conservative assumptions described above, should compensate for potential fill in developed parcels.

4.4 RESULTS

Several versions of the model were developed to evaluate encroachment impacts in various zones separately and in combination with other areas. The results are presented in Table 1 for the key combinations. Other combinations were also modeled as contained in the attached HEC-RAS project file. The existing condition is based on 1998 land use conditions. The revised existing condition is based upon approved, but unbuilt projects in the Sparks Marina Area which will remove significant portions of Storage Area 31 from the floodplain. The third set of values is for the southern storage area encroachments. The last set of files is for all storage area modifications as shown in Figures 3 through 7.

4.5 DOWNSTREAM IMPACTS ANALYSIS

Downstream impacts of encroachment would result from increases in peak flows leaving the Truckee Meadows into the downstream segment of the River. As can be seen in Table 1, encroachments in the overbank areas will result in changes to floodplain storage, which results in less attenuation of peak flows. The effect of these changes is a larger peak flow leaving the Truckee Meadows.

5.0 REFERENCES

Sources of information used in this analysis included the following references:

Federal Emergency Management Agency. September 1994. Flood Insurance Study, Washoe County, Nevada.

U.S. Department of the Army, Corps of Engineers. September 1990. Hydrologic Engineering Center, Computer Program 723-X6-LZ010, HEC-1, Flood Hydrograph Package.

U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, May 1993. Computer Program 723-X6-L202A, HEC-2 (VER. 4.6.2), Water Surface Profiles.

U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, May 2003. HEC-RAS (VER. 3.1.1), River Analysis System.

**Truckee River
Flood Pool Fill Impact Analysis**

January 31, 2003

Change in Peak Stage

<u>Comparison Location</u>	<u>2000 Existing Condition</u>	<u>1/ project Revised Existing</u>	<u>Revised Existing With Pembroke Area</u>	<u>Revised Existing With Pembroke and Sparks Industrial</u>
Sparks Marina Area	4395.96	4396.16	4396.32	4396.52
Confluence - Truckee & Steamboat	4396.11	4396.16	4396.38	4396.55
Upstream of Pembroke Lane	4396.65	4396.71	4396.93	4397.09
Upstream of McCarran Blvd	4401.69	4401.69	4401.69	4401.69
At Rock Park	4419.66	4419.68	4419.68	4419.68
Below Truckee Meadows (Peak Flow)	20162	20247	20611	20888

To: Jeannie Rutherford
1 page
From: S. Nease

4/3 hours.
full st. elevate entire
st. - lots @ 50%
50% raised.

Streets in flood way
remain in industrial
assume 30% of land parcel
elevated.

Revised Existing With
Pembroke and Sparks Industrial

Differences Between Encroachment Alternative and Existing Condition

<u>Comparison Location</u>	<u>Existing Condition</u>	<u>Revised Existing</u>	<u>Revised Existing With Pembroke Area</u>	<u>Revised Existing With Pembroke and Sparks Industrial</u>
Sparks Marina Area	0	0.20	0.36	0.56
Confluence - Truckee & Steamboat	0	0.05	0.27	0.44
Upstream of Pembroke Lane	0	0.06	0.28	0.44
Upstream of McCarran Blvd	0	0.00	0.00	0.00
At Rock Park	0	0.02	0.02	0.02
Below Truckee Meadows (Peak Flow)	0	86	450	726



Table 1
Truckee River
Results of Flood Pool Encroachment Analysis

Comparison Location	Change in Peak Stage			
	Existing Condition	Revised Existing	Revised Existing With Southern Area Encroachments	Revised Existing With Southern and Sparks Industrial Encroachments
Sparks Marina Area	4394.80	4396.26	4396.51	4396.77
Confluence - Truckee & Steamboat	4396.12	4396.16	4396.38	4396.55
Upstream of Pembroke Lane	4396.62	4396.66	4396.88	4397.04
Upstream of McCarran Blvd	4401.69	4401.69	4401.69	4401.69
At Rock Park	4419.68	4419.68	4419.68	4419.68
Below Truckee Meadows (Peak Flow)	20176	20257	20615	20898

Differences Between Encroachment Alternative and Existing Condition

Comparison Location	Existing Condition	Revised Existing	Revised Existing With Southern Area Encroachments	Revised Existing With Southern and Sparks Industrial Encroachments
Sparks Marina Area	0	1.46	1.71	1.97
Confluence - Truckee & Steamboat	0	0.04	0.26	0.43
Upstream of Pembroke Lane	0	0.04	0.26	0.42
Upstream of McCarran Blvd	0	0.00	0.00	0.00
At Rock Park	0	0.00	0.00	0.00
Below Truckee Meadows (Peak Flow)	0	81	439	722

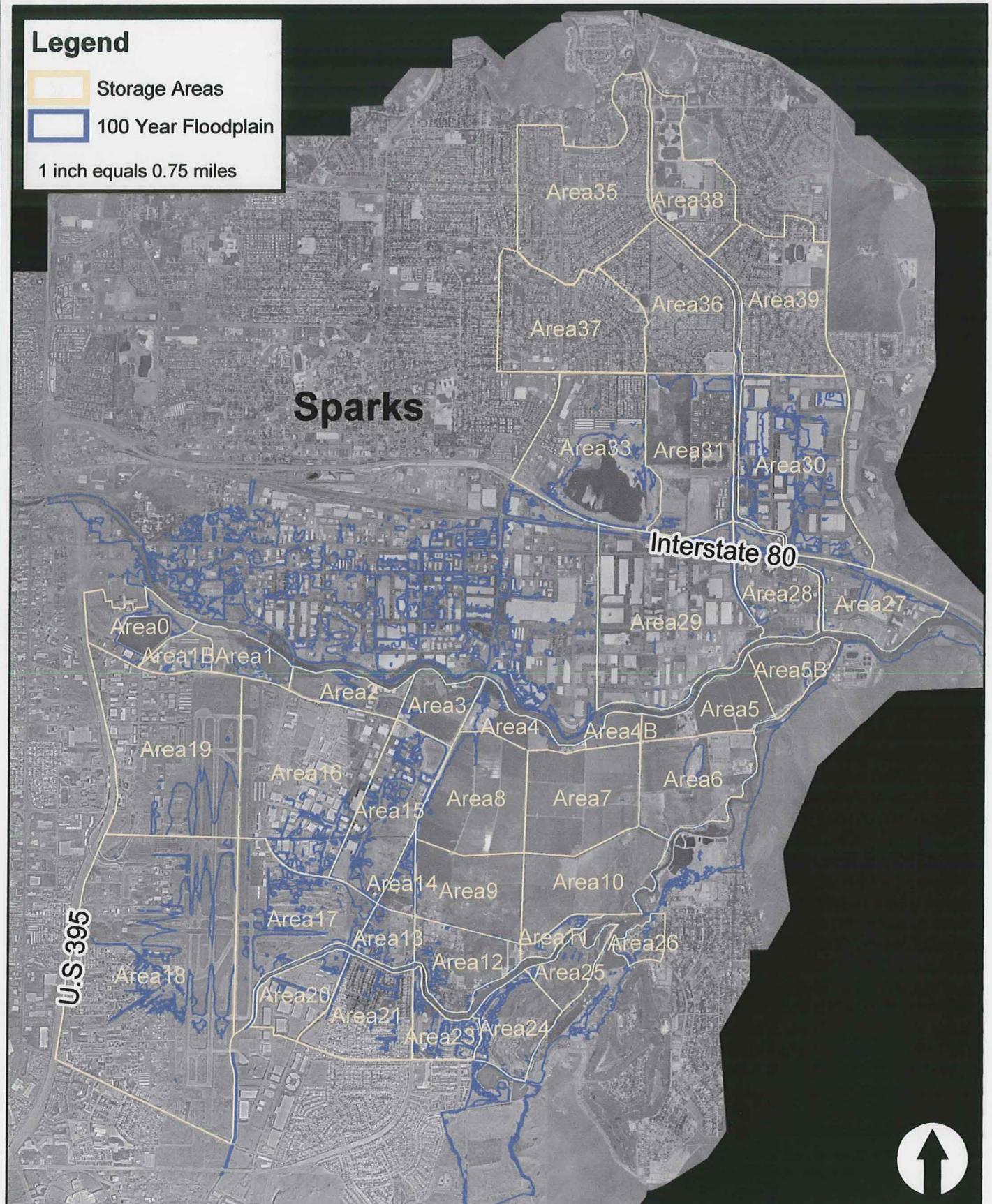


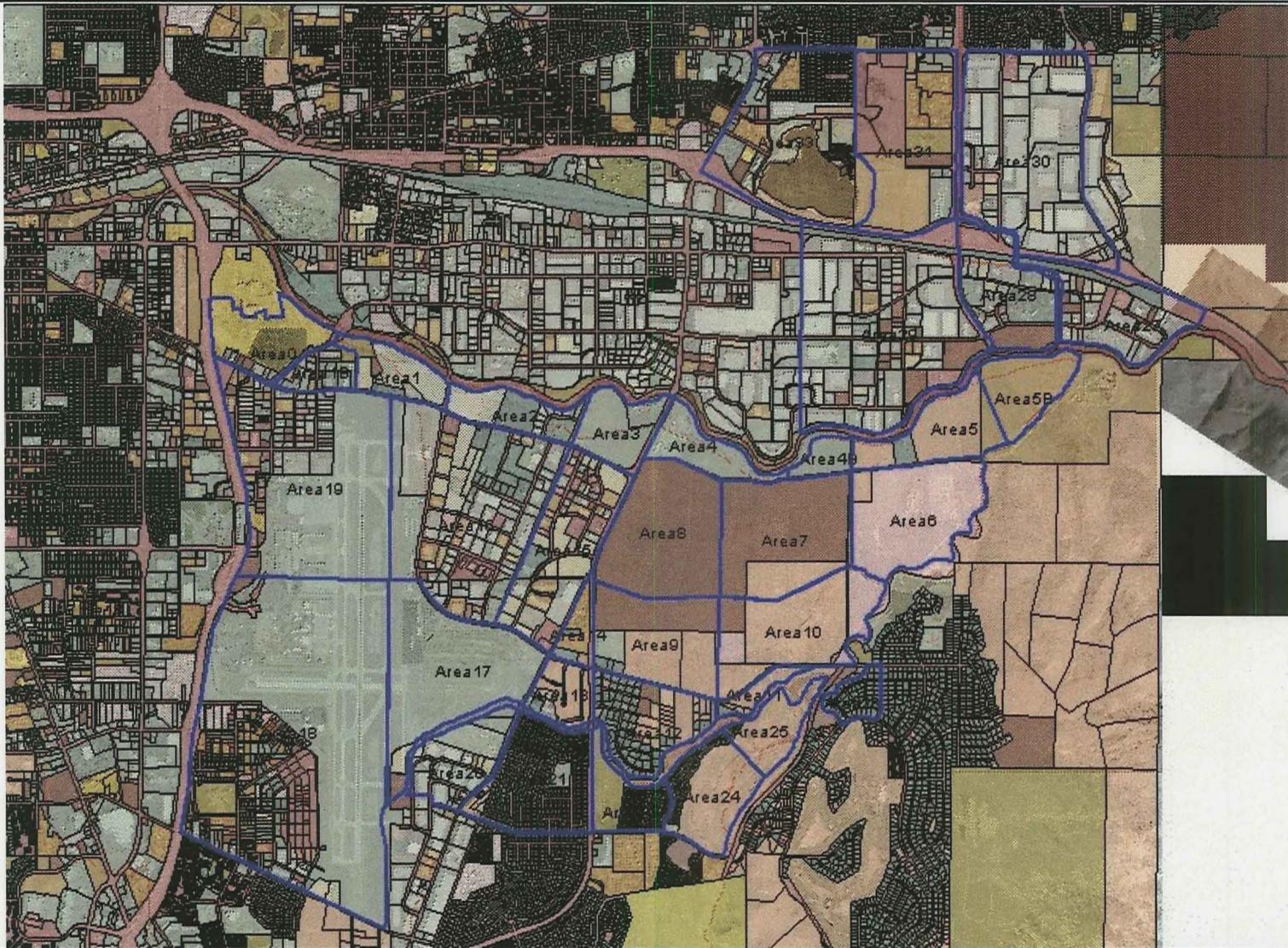
1 inch equals 0.75 miles



Truckee River Floodplain
Storage Impact Analysis
Location Map

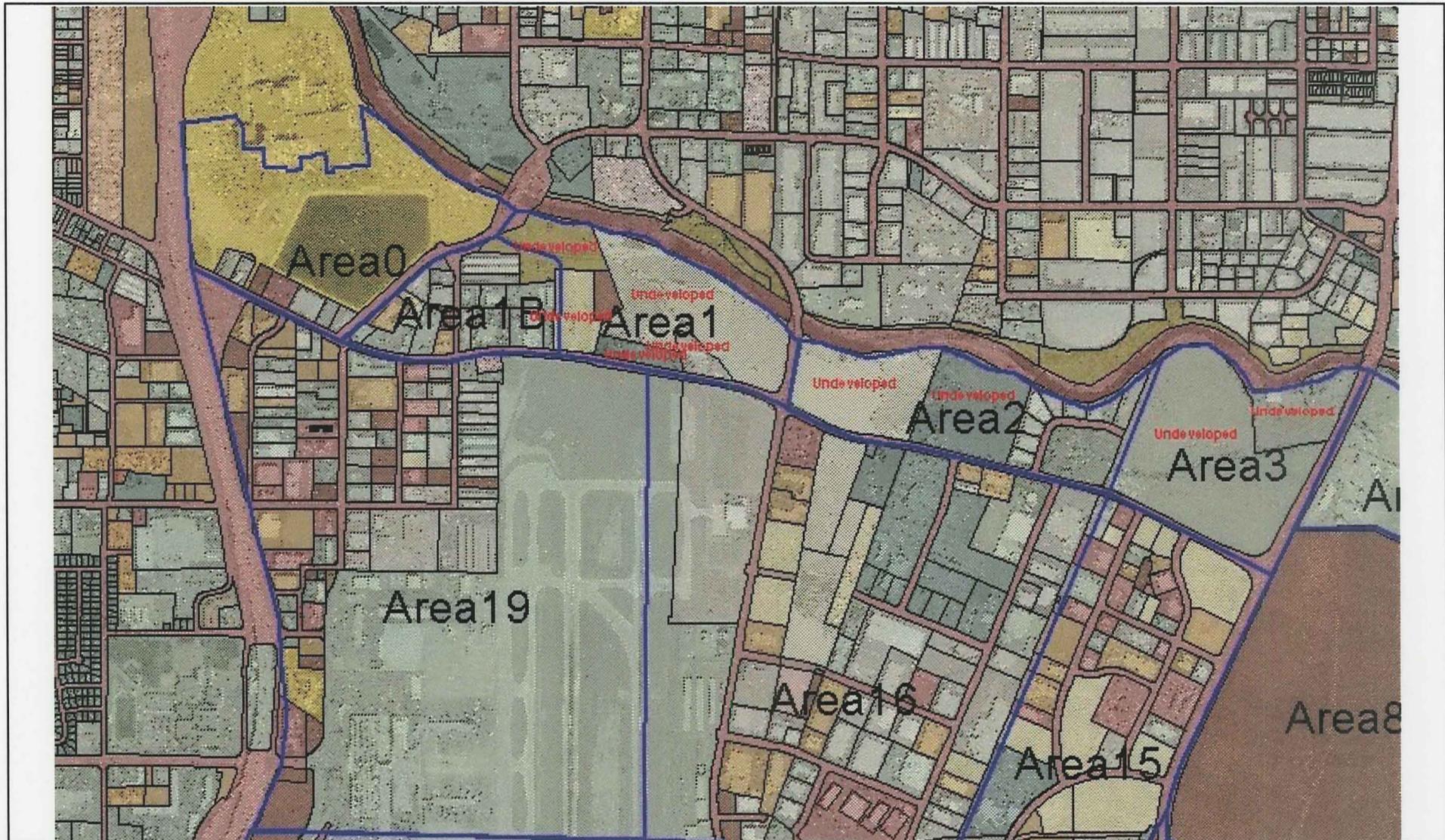
Figure 1





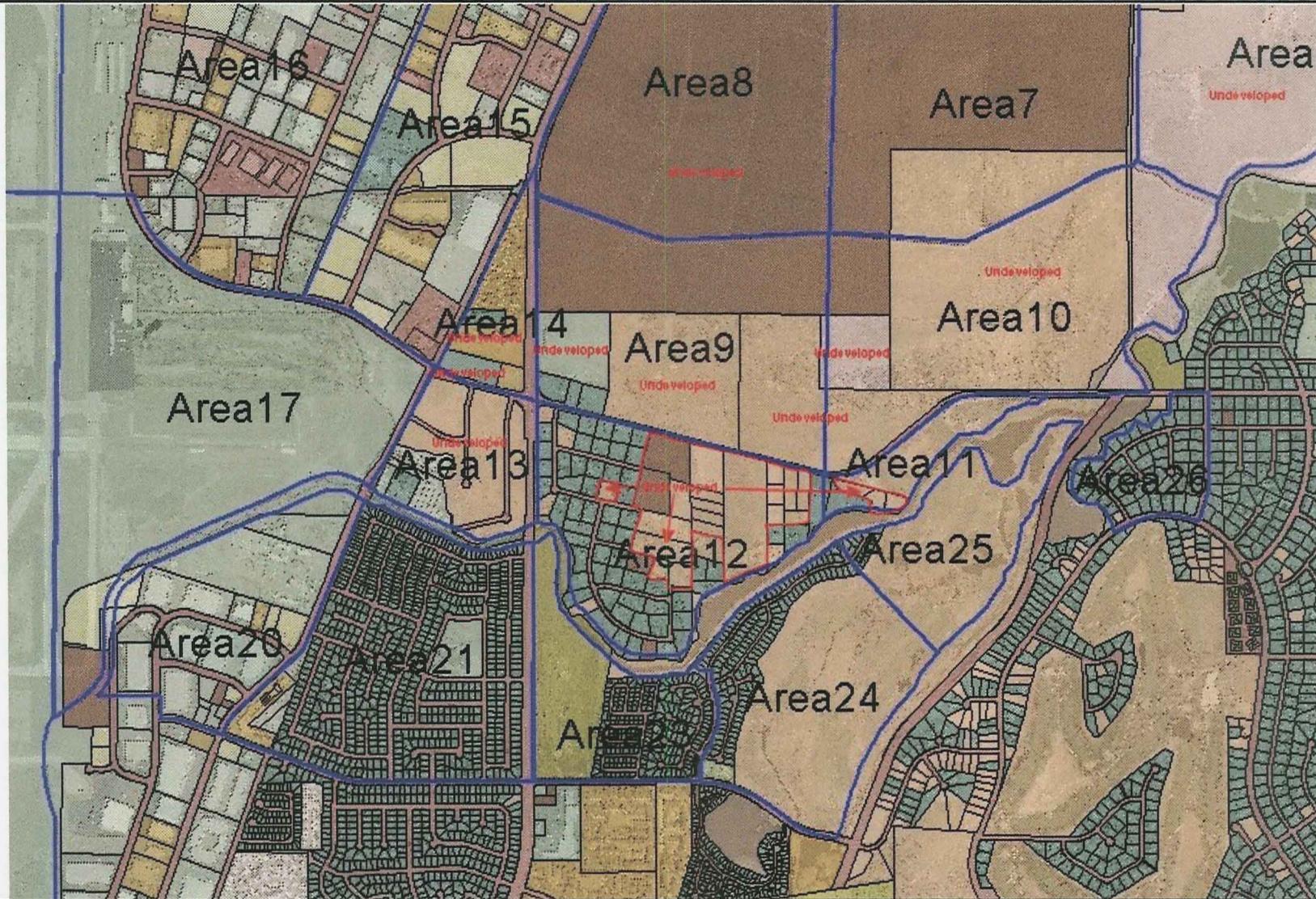
Truckee River Floodplain
Storage Impact Analysis
Project Area With Land Use Overlay

Figure 3



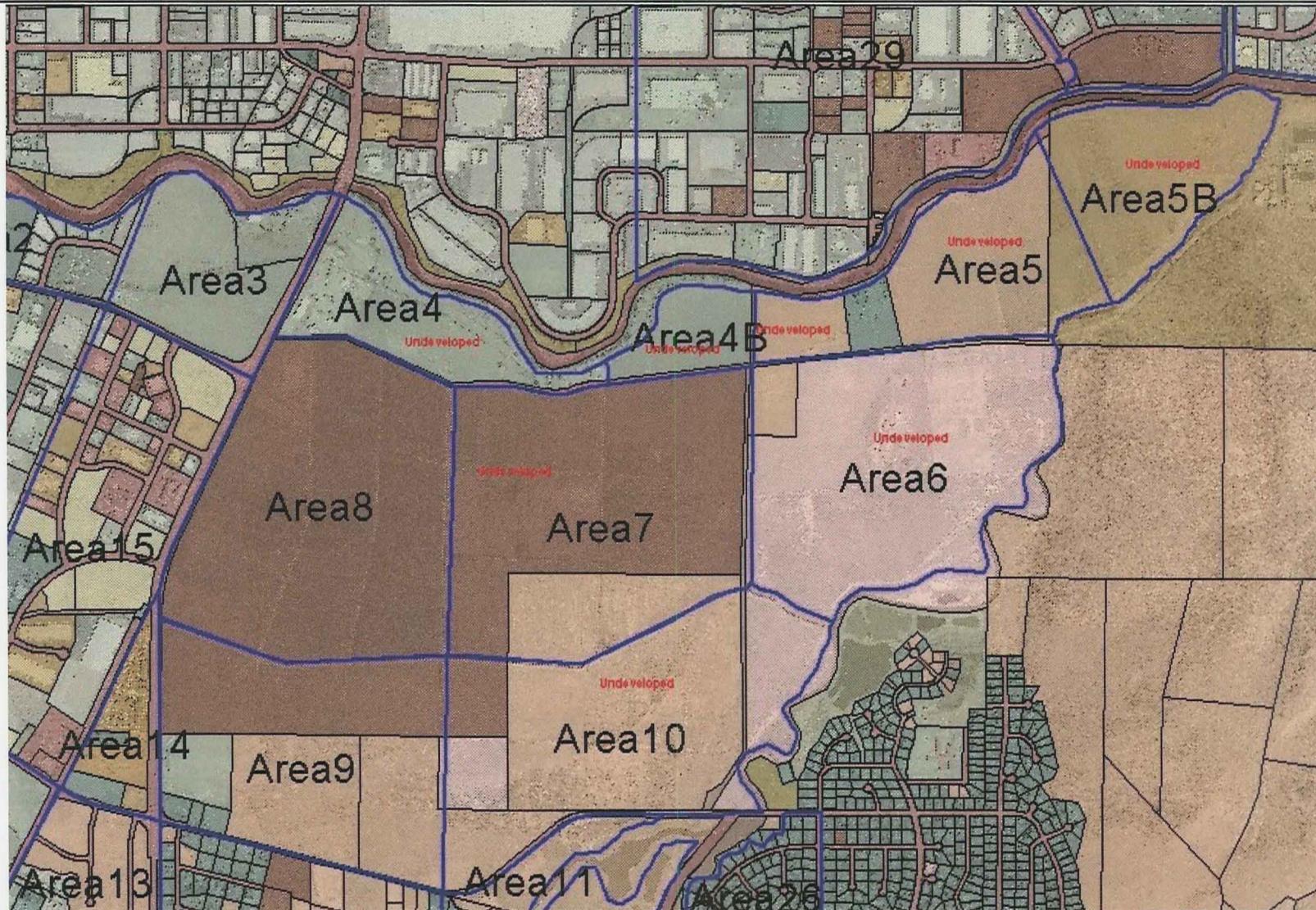
Truckee River Floodplain
Storage Impact Analysis
Undeveloped Parcels Used In Analysis

Figure 4



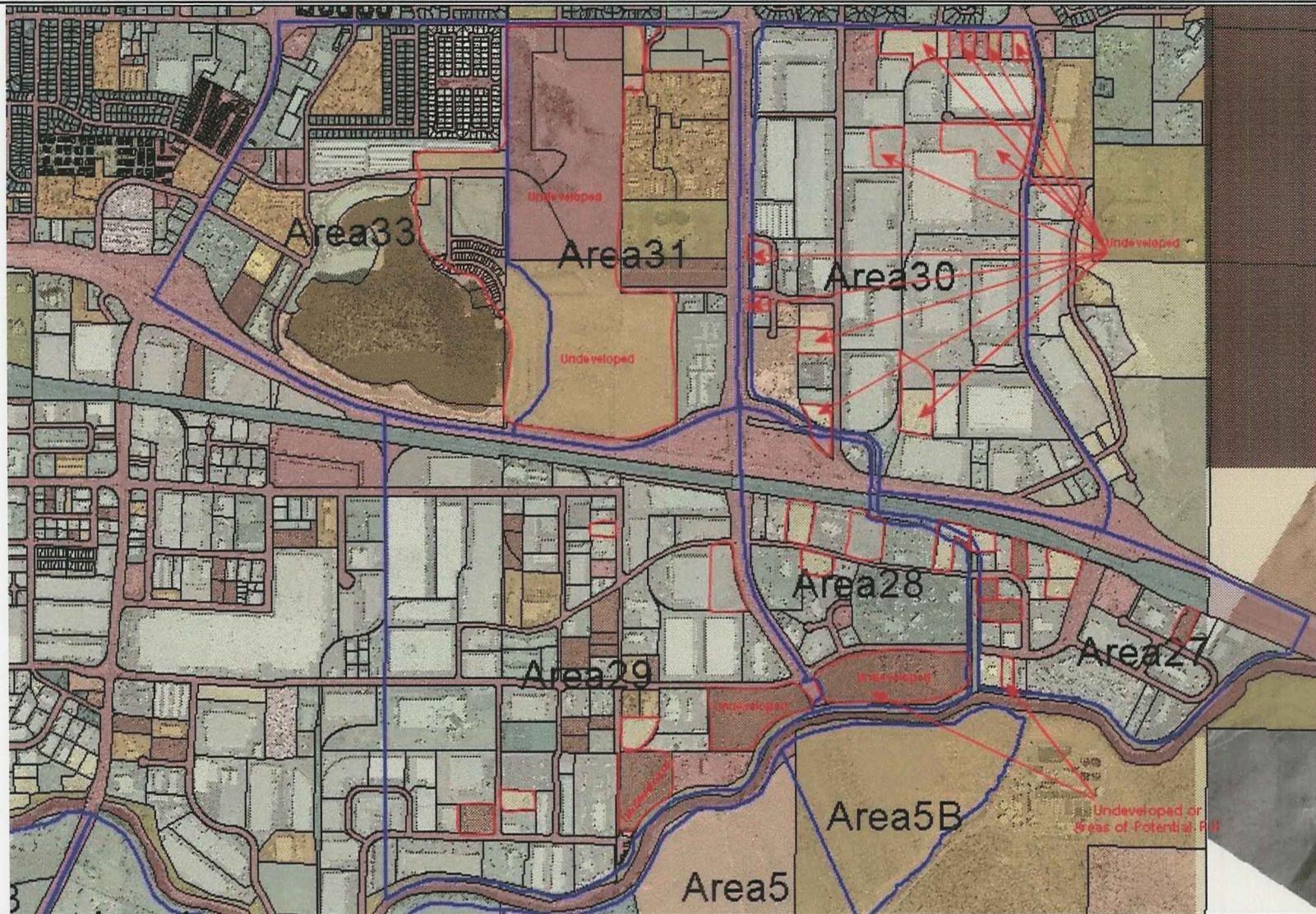
Truckee River Floodplain
Storage Impact Analysis
Undeveloped Parcels Used In Analysis

Figure 5



Truckee River Floodplain
Storage Impact Analysis
Undeveloped Parcels Used In Analysis

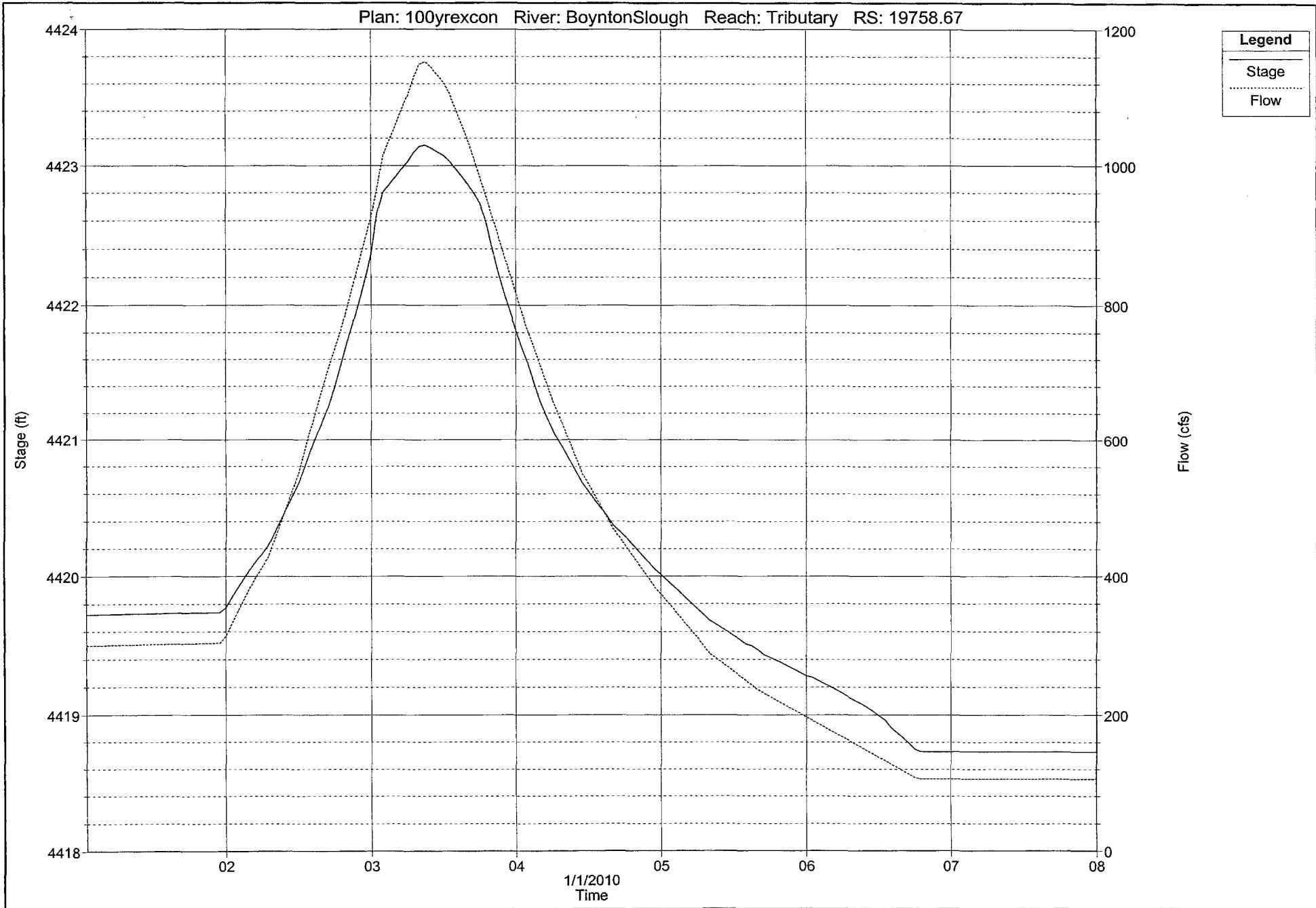
Figure 6



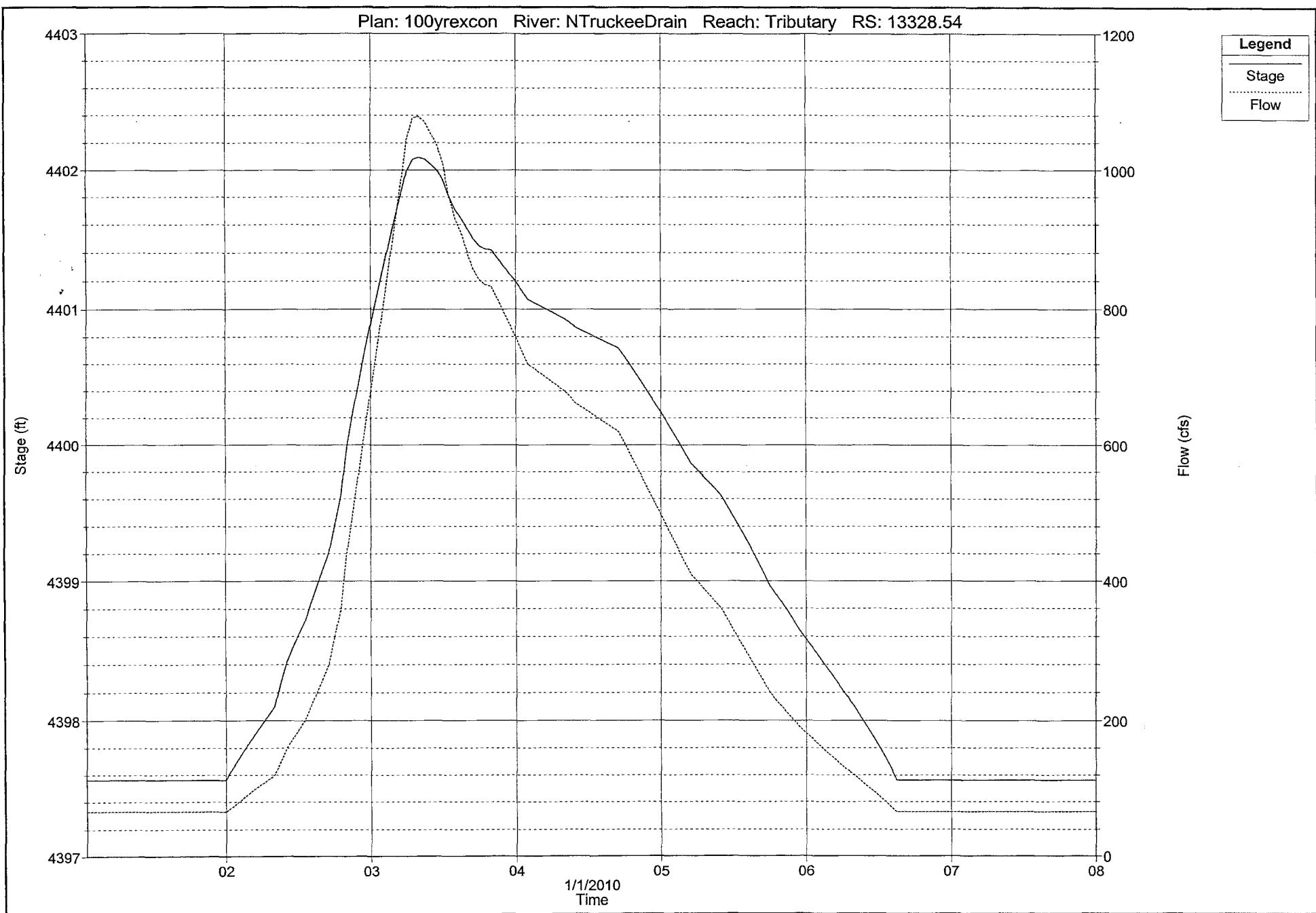
Truckee River Floodplain
Storage Impact Analysis
Undeveloped Parcels Used In Analysis

Figure 7

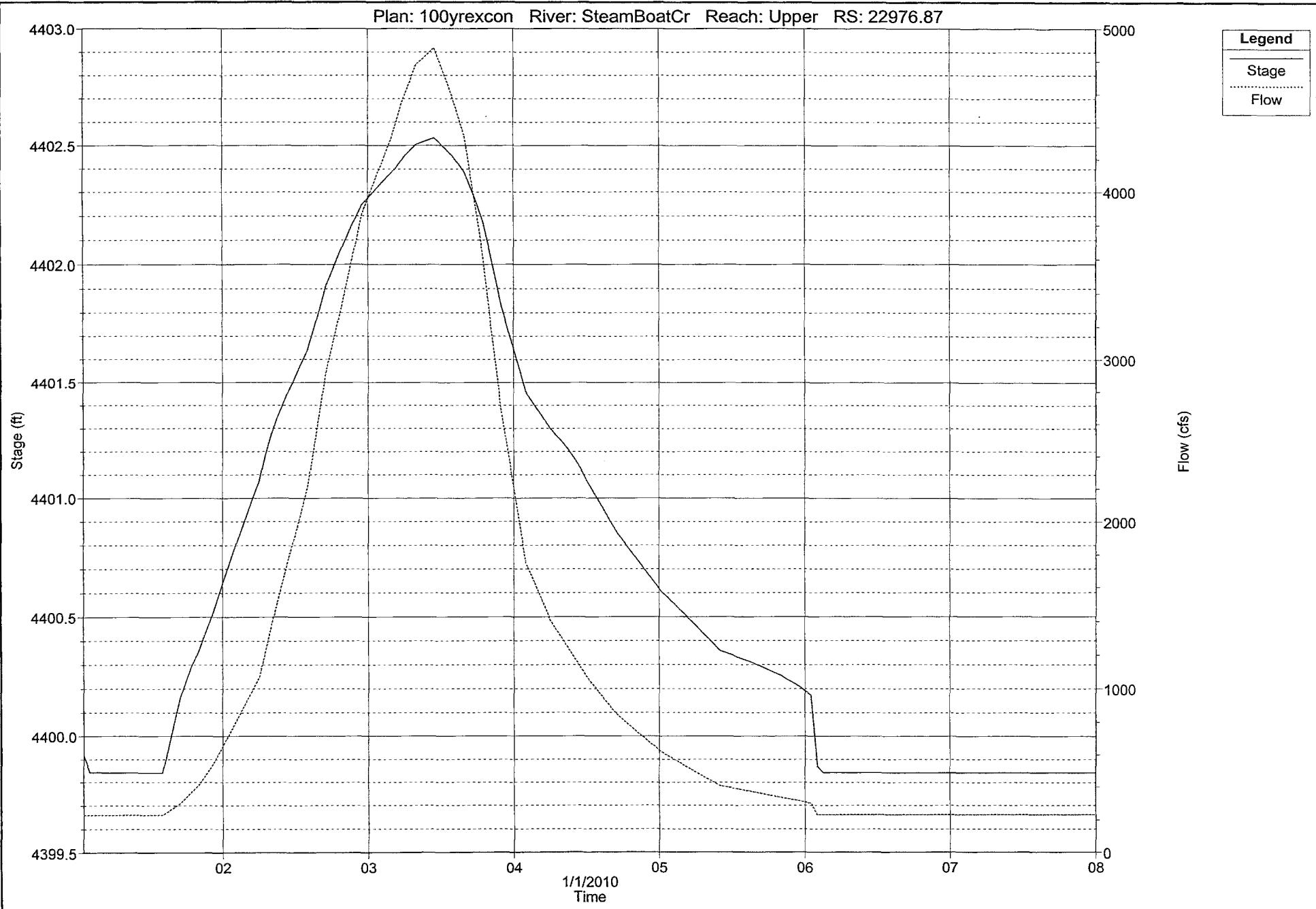
Plan: 100yrexcon River: BoyntonSlough Reach: Tributary RS: 19758.67



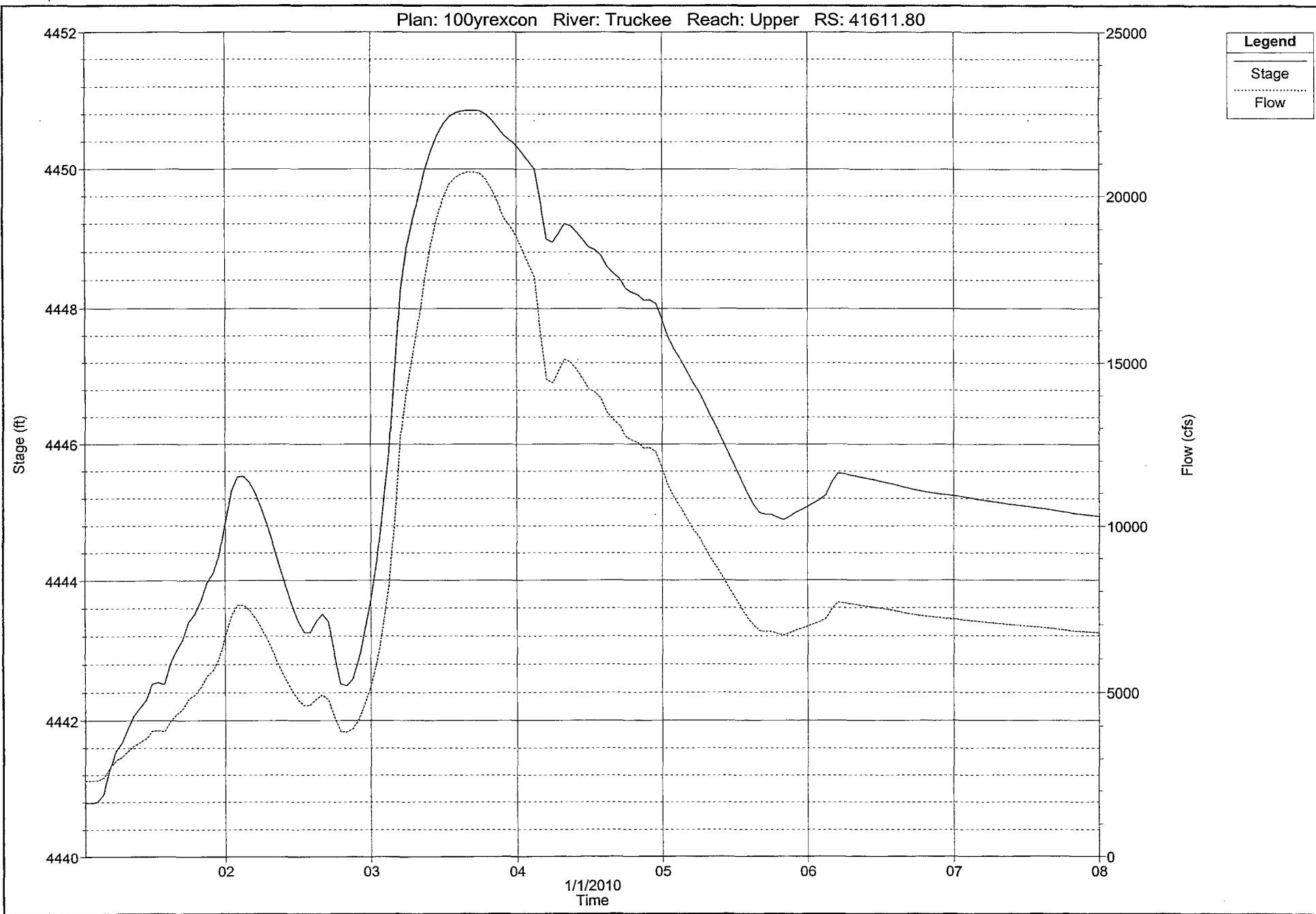
Plan: 100yrexcon River: NTruckeeDrain Reach: Tributary RS: 13328.54



Plan: 100yrexcon River: SteamBoatCr Reach: Upper RS: 22976.87



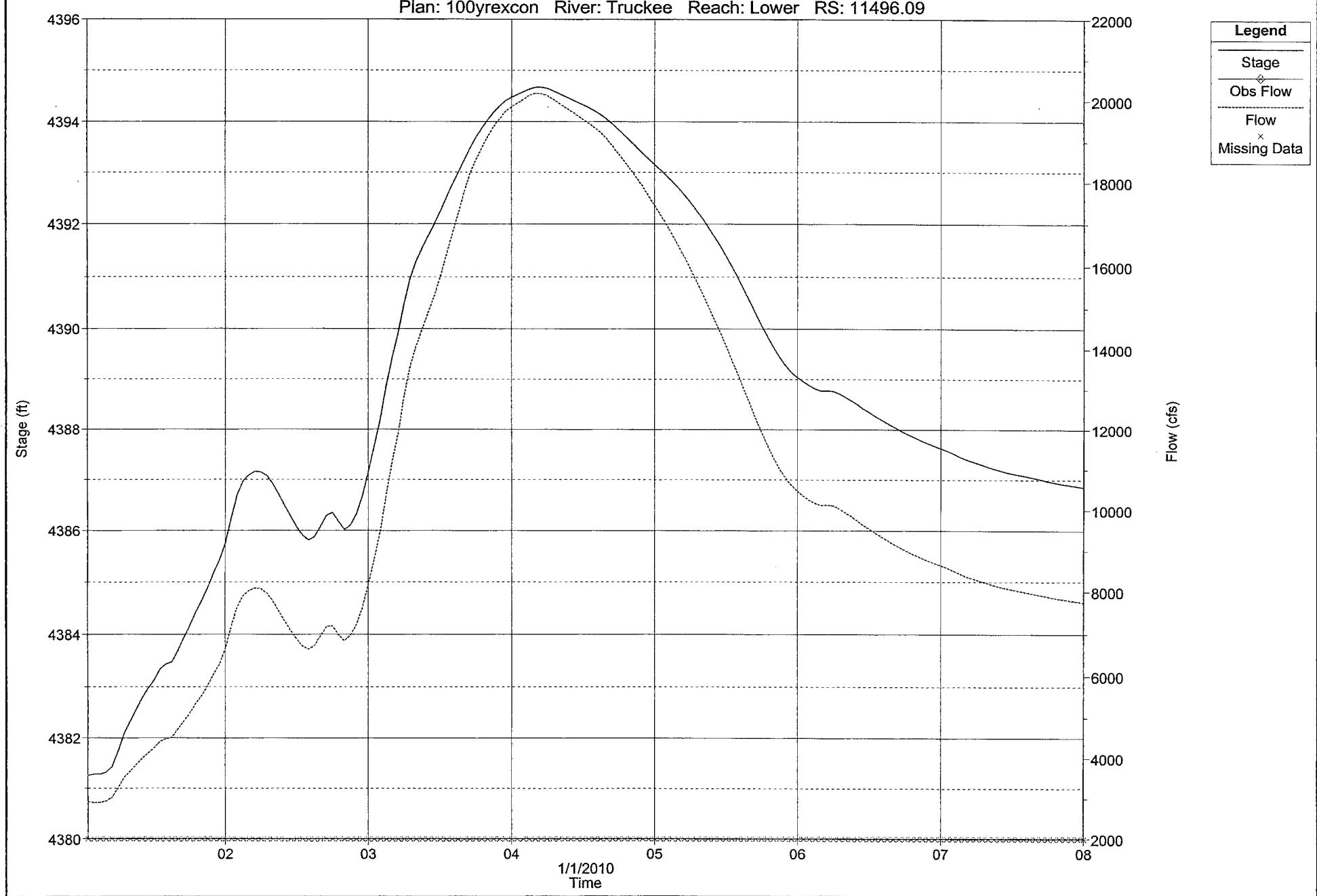
Plan: 100yrexcon River: Truckee Reach: Upper RS: 41611.80



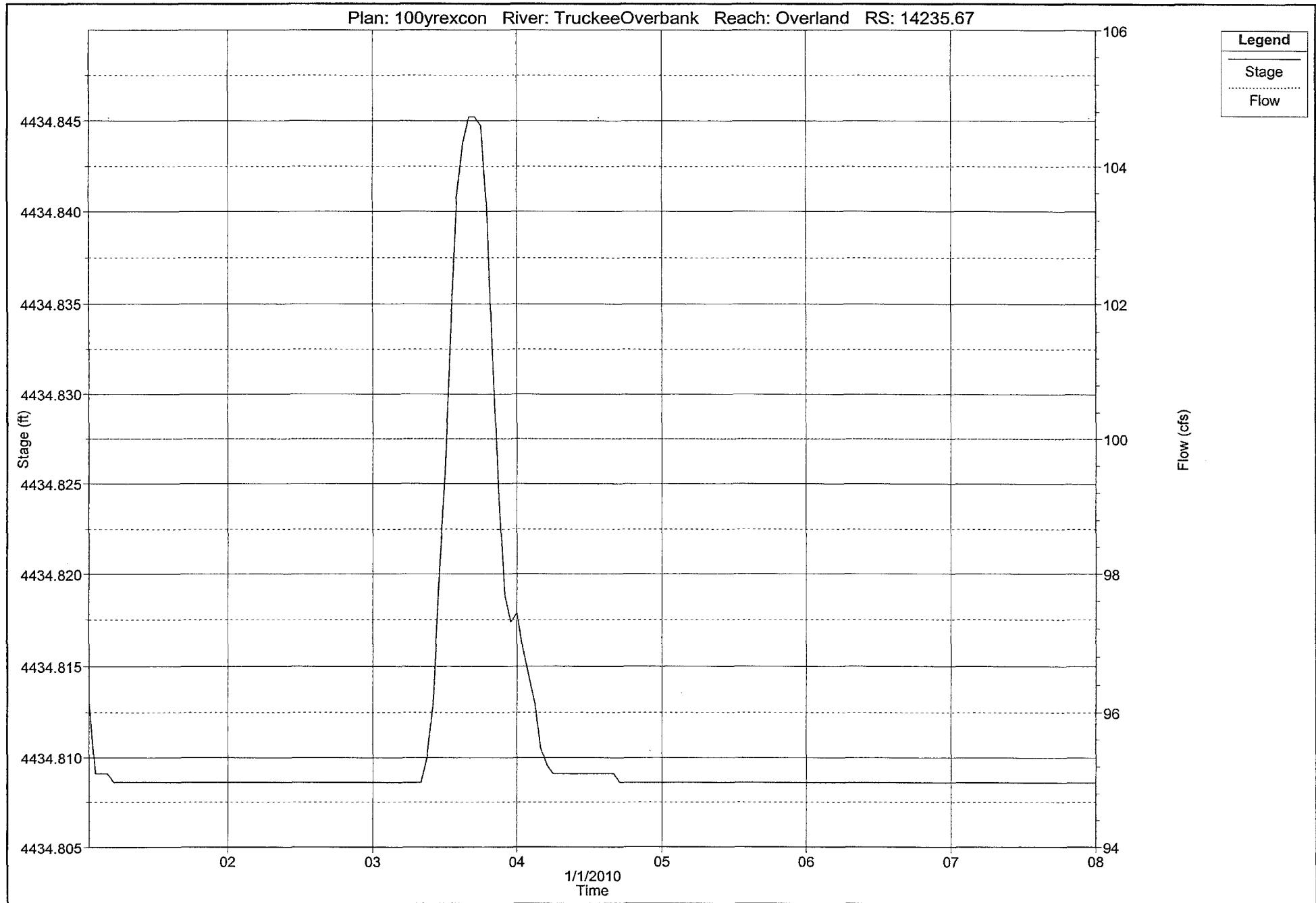
Plan: 100yrexcon River: Truckee Reach: Lower RS: 11496.09

Legend

- Stage
- Obs Flow
- Flow
- Missing Data



Plan: 100yrexcon River: TruckeeOverbank Reach: Overland RS: 14235.67



WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

30-Jan-03

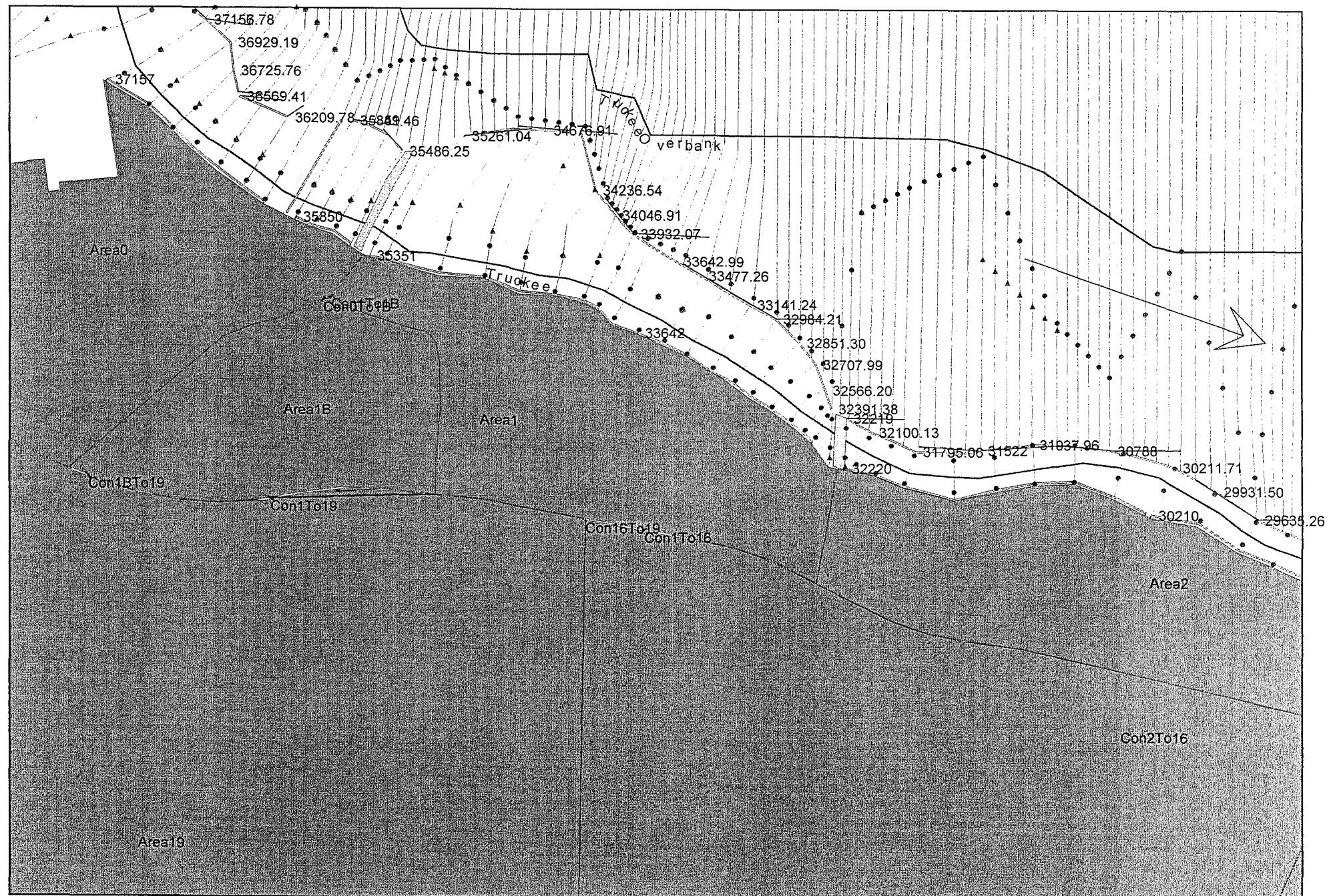
Storage Area: 1**Existing Conditions**

Elev (ft)	Vol (Acft)
4412.7	0
4414.4	0.238
4415.8	5.252
4417.1	20.821
4418.5	50.625
4419.8	94.496
4421.2	152.575
4422.5	223.799
4423.9	304.165
4425.3	388.537
4426.6	476.046
4428	565.206
4429.3	656.941
4430.7	749.446
4432	842.489
4433.4	935.123
4434.8	1028.616
4436.1	1122.262
4437.5	1215.965

Proposed Conditions

Elev (ft)	Vol (Acft)
4412.7	0.000
4414.4	0.238
4415.8	5.252
4417.1	16.657
4418.5	40.500
4419.8	75.597
4421.2	122.060
4422.5	179.039
4423.9	243.332
4425.3	310.830
4426.6	380.837
4428	452.165
4429.3	525.553
4430.7	599.557
4432	673.991
4433.4	748.098
4434.8	822.893
4436.1	897.810
4437.5	972.772

Assumptions: land uses within this storage area are: public parks, industrial, minor improvements, single family residential, cultivation
fill was placed up to the 100-year wsel
20% of storage area assumed to be developable above 4417 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 2

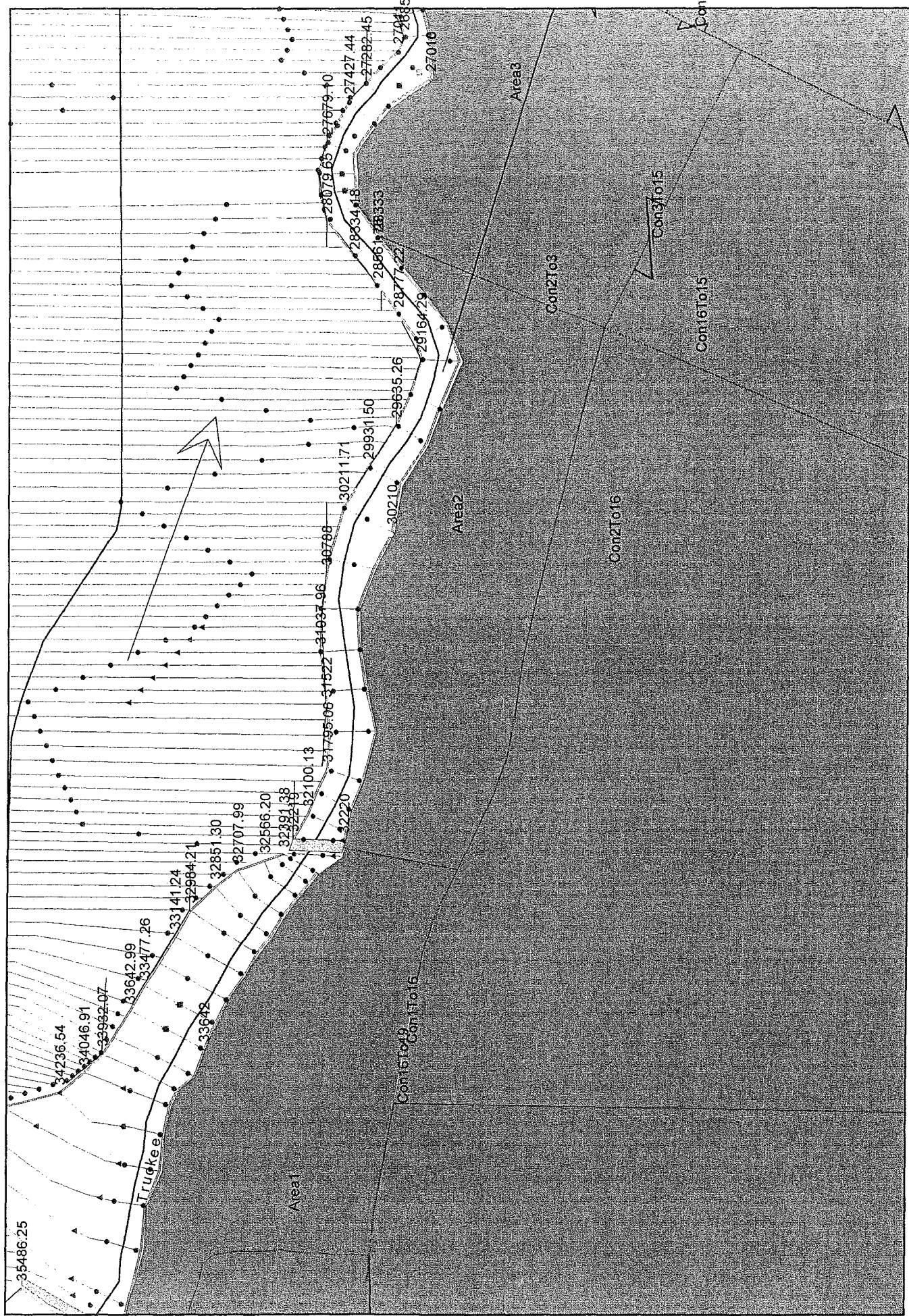
Existing Conditions

Elev (ft)	Vol (Acft)
4402.1	0
4404.2	0.496
4405.7	5.275
4407.2	27.765
4408.6	78.192
4410.1	140.973
4411.6	216.491
4413	305.309
4414.5	406.127
4416	511.172
4417.4	618.02
4418.9	725.114
4420.4	832.362
4421.8	939.674
4423.3	1047.108
4424.8	1153.866
4426.2	1261.438
4427.7	1369.066
4429.2	1476.833

Proposed Conditions

Elev (ft)	Vol (Acft)
4402.1	0.000
4404.2	0.496
4405.7	5.275
4407.2	19.436
4408.6	54.734
4410.1	98.681
4411.6	151.544
4413	213.716
4414.5	284.289
4416	357.820
4417.4	432.614
4418.9	507.580
4420.4	582.653
4421.8	657.772
4423.3	732.976
4424.8	807.706
4426.2	883.007
4427.7	958.346
4429.2	1033.783

Assumptions: land uses within this storage area are: cultivation, single family residential, commercial
fill was placed up to the 100-year wsel
30% of storage area assumed to be developable above 4407 ft



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Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 3

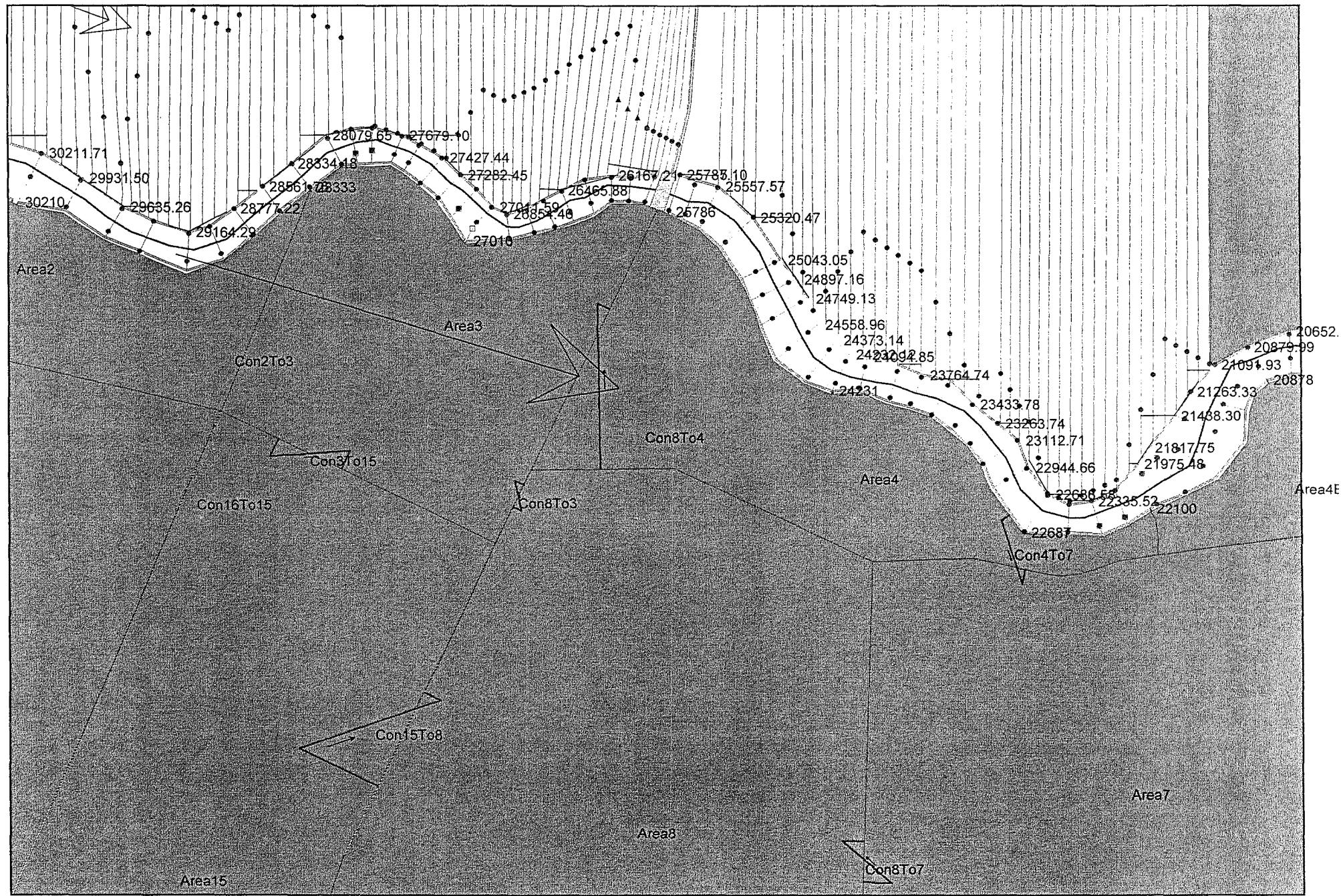
Existing Conditions

Elev (ft)	Vol (Acft)
4395.8	0
4397	0.02
4397.7	0.1
4398.4	0.52
4399.1	3.78
4399.9	13.3
4400.6	30.73
4401.3	56.12
4402	90.66
4402.8	134.72
4403.5	187.83
4404.2	243.72
4405	299.54
4405.7	356.67
4406.4	414.35
4407.1	471.81
4407.9	530.76
4408.6	589.08
4409.3	648.29
4420	1553

Proposed Conditions

Elev (ft)	Vol (Acft)
4407	0
4407.1	1.81
4407.9	60.76
4408.6	119.08
4409.3	178.29
4420	1083

Assumptions: land uses within this storage area are: industrial
fill was placed up to the 100-year wsel
100% of storage area assumed to be developable below 4407 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 4

Existing Conditions

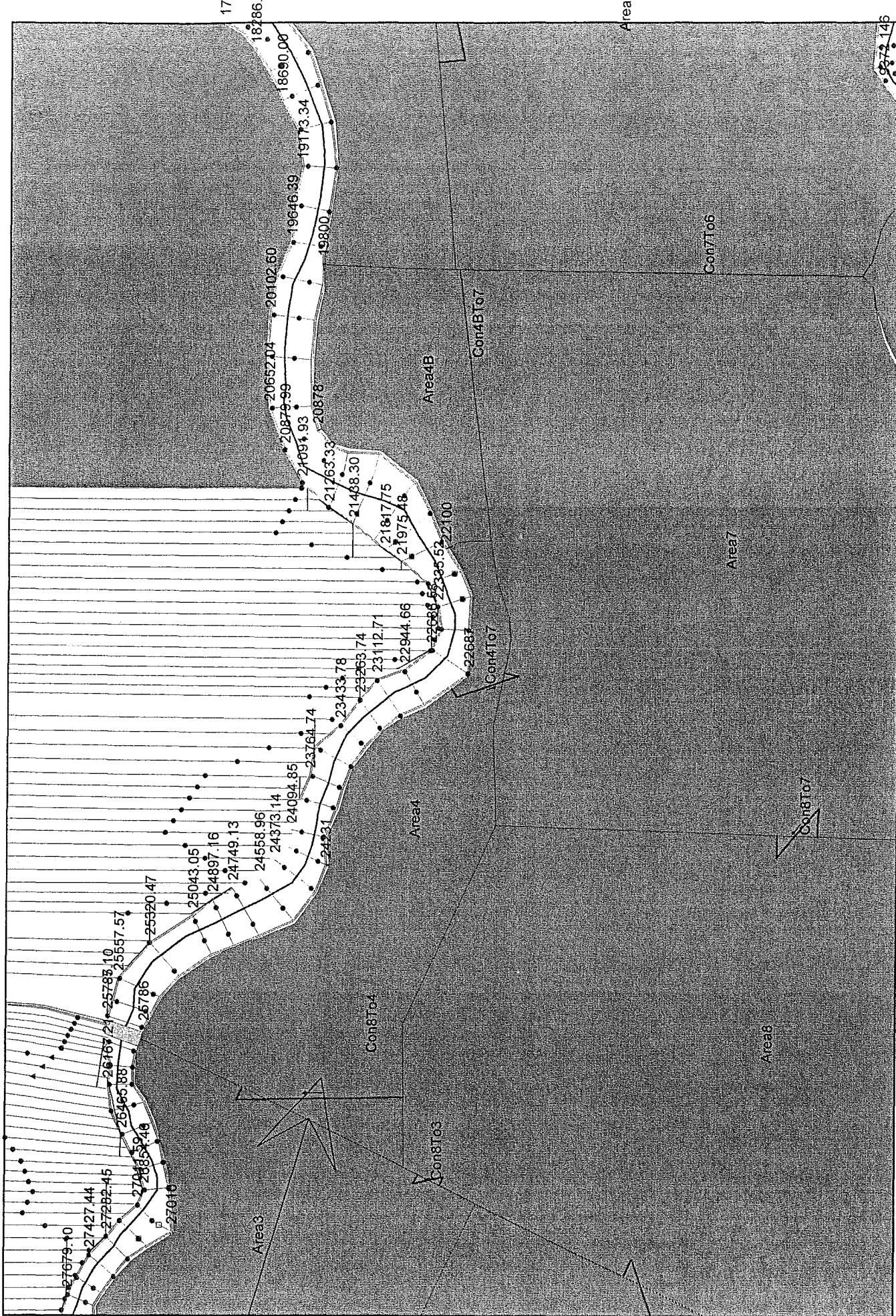
Elev (ft)	Vol (Acft)
4390.9	0
4392	0.03
4393	0.44
4394	7.37
4395	27.46
4396	59.1
4397	101.37
4398	154.2
4399	213.14
4400	276.66
4401	342.88
4402	410.02
4403	477.83
4404	546.35
4405	615.14
4406	684.2
4407	753.48
4408	822.97
4409	892.61
4420	1659

Proposed Conditions

Elev (ft)	Vol (Acft)
4390.9	0
4392	0.006
4393	0.088
4394	1.474
4395	5.492
4396	11.82
4397	20.274
4398	30.84
4399	42.628
4400	46.66
4401	112.88
4402	180.02
4403	247.83
4404	316.35
4405	385.14
4406	454.2
4407	523.48
4408	592.97
4409	662.61
4420	1429

Assumptions:

land uses within this storage area are: commercial
fill was placed up to the 100-year wsel
80% of storage area assumed to be developable below 4400 ft
removed approximately 230 acft above 4400 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 4b

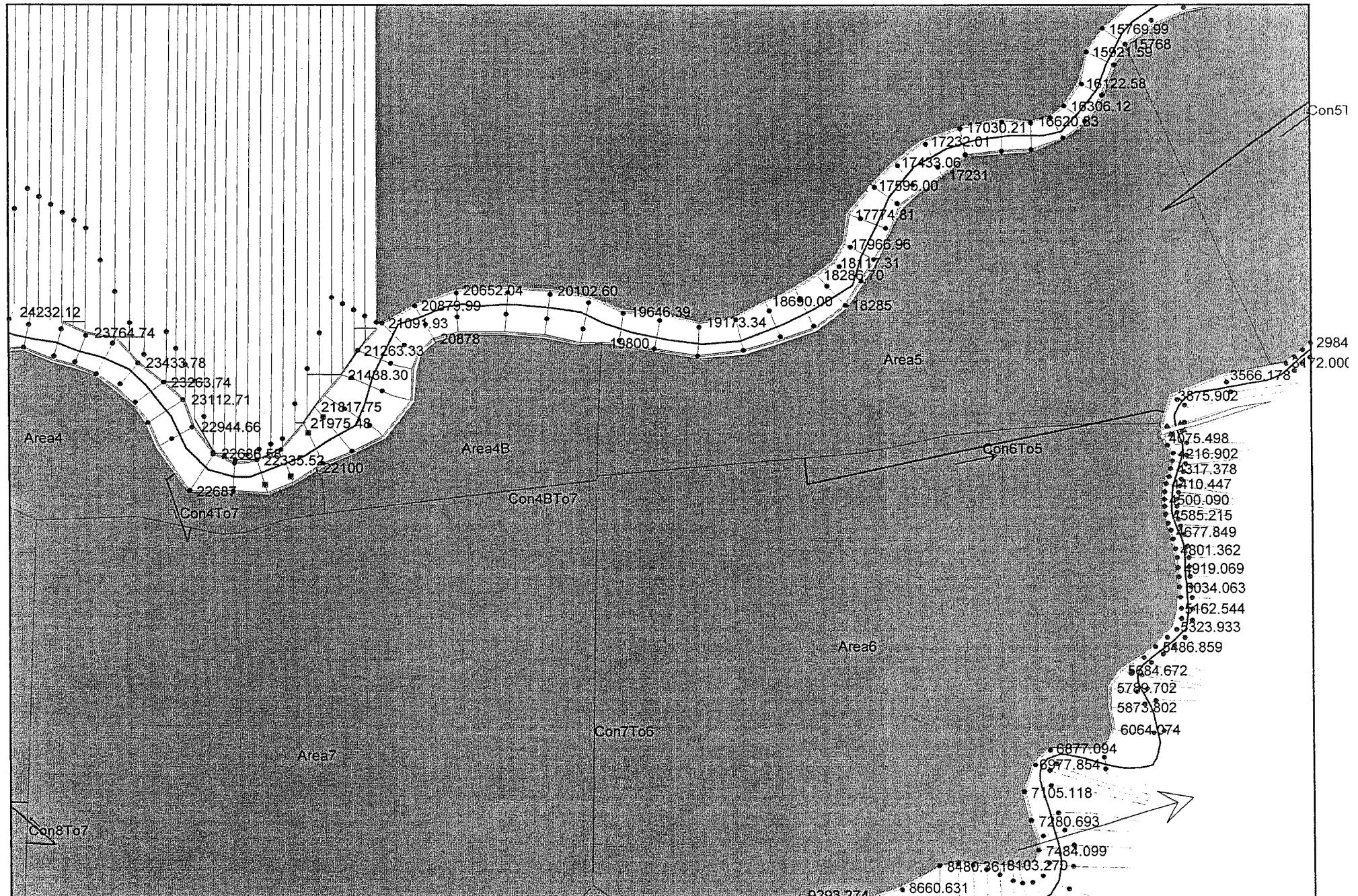
Existing Conditions

Elev (ft)	Vol (Acft)
4388.4	0
4389.3	0.1
4390	1.66
4390.6	8.06
4391.3	19.52
4391.9	34.03
4392.6	49.7
4393.2	66.6
4393.9	84.57
4394.6	102.96
4395.2	121.62
4395.9	140.45
4396.5	159.25
4397.2	178.45
4397.8	197.68
4398.5	216.9
4399.2	235.85
4399.8	255.08
4400.5	274.33
4410	536

Proposed Conditions

Elev (ft)	Vol (Acft)
4397	0
4397.2	0.45
4397.8	19.68
4398.5	38.9
4399.2	57.85
4399.8	77.08
4400.5	96.33
4410	358

Assumptions: land uses within this storage area are: commercial
fill was placed up to the 100-year wsel
100% of storage area assumed to be developable below 4397 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 5

Existing Conditions

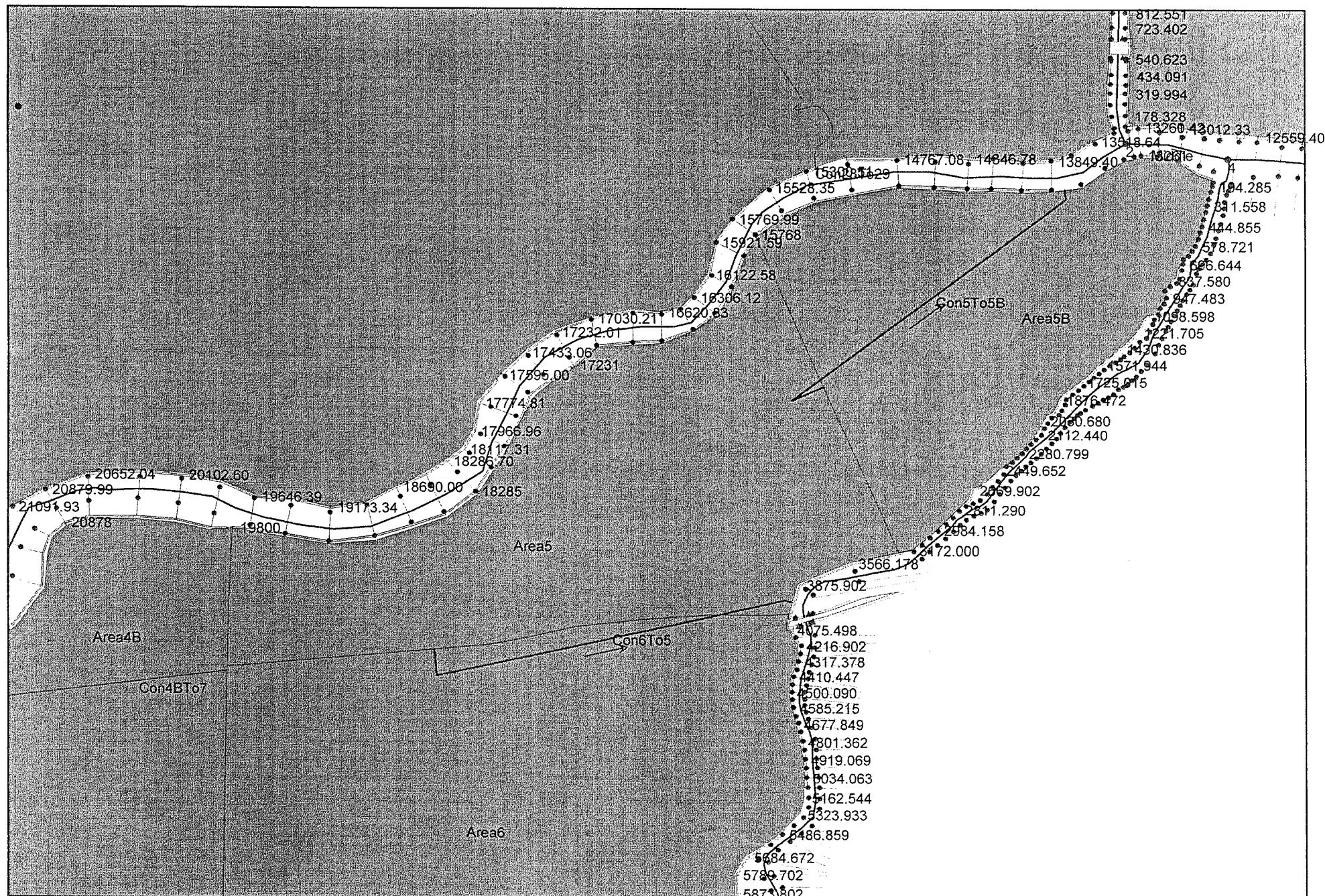
Elev (ft)	Vol (Acft)	Elev (ft)	Vol (Acft)
4384.7	0	4396	0
4385.5	0.18	4402	644.8
4386	1.47	4408	1288.9
4386.6	6.23	4410	1504
4387.2	17.49		
4387.8	37.78		
4388.4	65.69		
4389	100.81		
4389.5	140.97		
4390.1	187.58		
4390.7	238.05		
4391.3	292.2		
4391.9	350.84		
4392.5	411.14		
4393	474.4		
4393.6	537.66		
4394.2	601.55		
4394.8	666.88		
4395.4	731.29		
4396	795.7		
4402	1439.8		
4408	2083.9		
4410	2299		

Proposed Conditions

Elev (ft)

Vol (Acft)

Assumptions: land uses within this storage area are: single family residential, commercial
fill was placed up to the 100-year wsei
100% of storage area assumed to be developable below 4396 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 5b

Existing Conditions

Elev (ft)	Vol (Acft)
4383	0
4386.4	4.37
4388.1	49.58
4389.8	143.26
4391.6	268.73
4393.3	404.37
4395	541.91
4396.8	679.01
4398.5	817.81
4400.3	959.75
4402	1103.26
4403.7	1248.69
4410	1788

Proposed Conditions

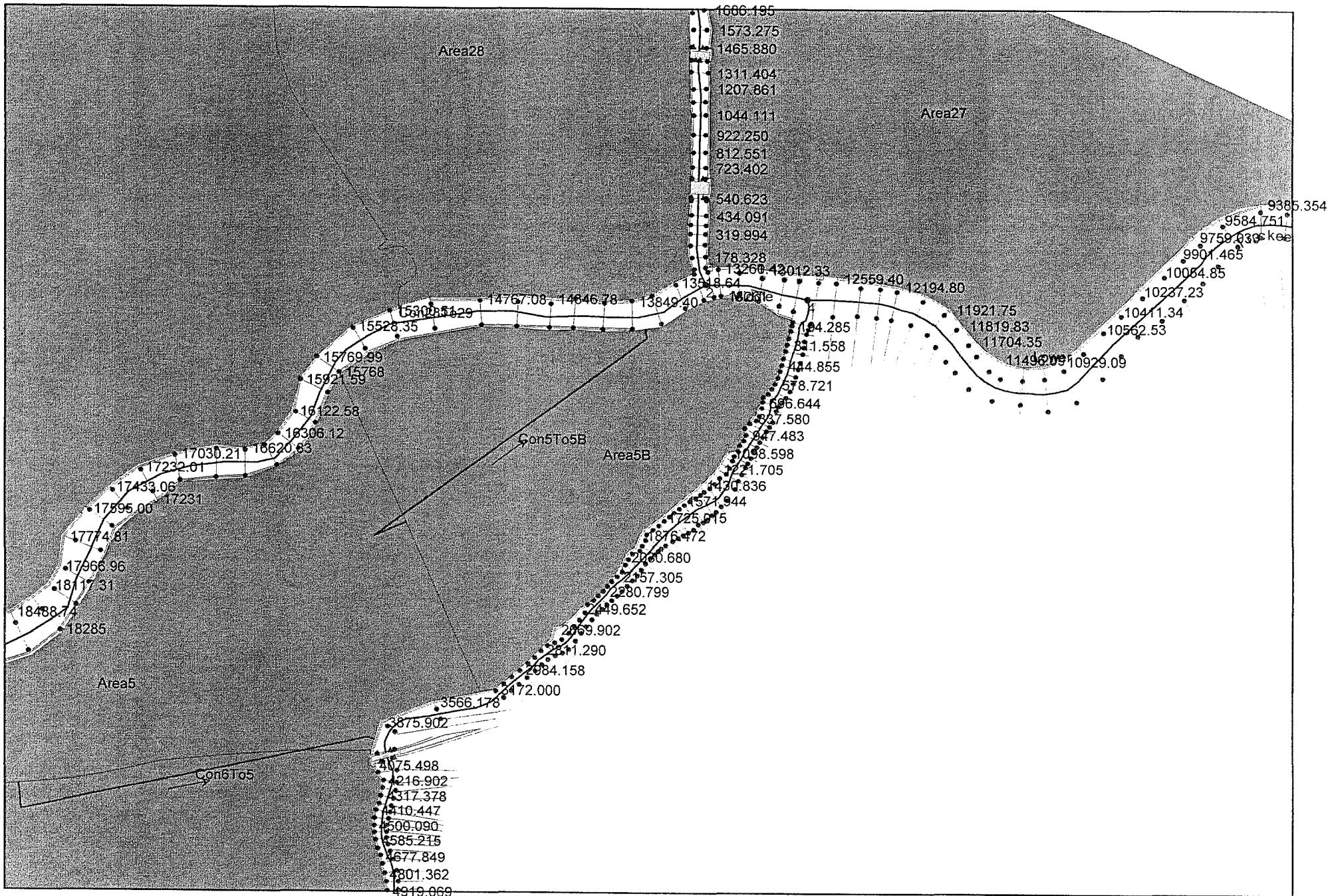
Elev (ft)	Vol (Acft)
4383	0
4386.4	0.437
4388.1	4.958
4389.8	14.326
4391.6	26.873
4393.3	40.437
4395	54.191
4396.8	69.01
4398.5	207.81
4400.3	349.75
4402	493.26
4403.7	638.69
4410	1178

Assumptions: land uses within this storage area are: commercial

fill was placed up to the 100-year wsel

90% of storage area assumed to be developable below 4396 ft

removed approximately 610 acft above 4396 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 6

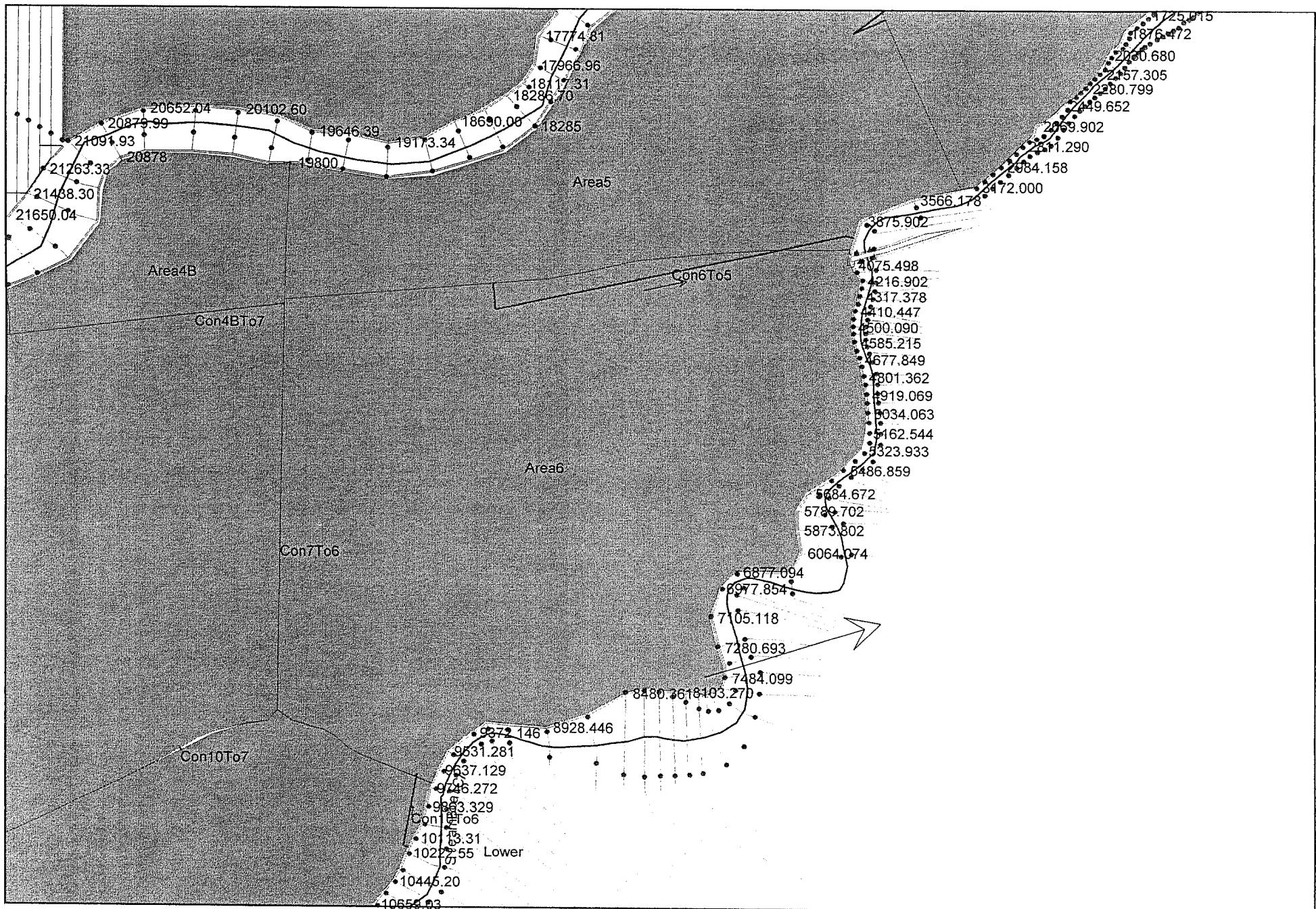
Existing Conditions

Elev (ft)	Vol (Acft)
4383.9	0
4386.7	4.303
4388.6	111.923
4390.4	345.614
4392.3	637.417
4394.2	981.55
4396.1	1332.635
4397.9	1684.058
4399.8	2038.926
4401.7	2393.385
4403.6	2749.248
4405.4	3108.885
4407.3	3468.349
4409.2	3829.527
4411	4194.295
4412.9	4558.588
4414.8	4926.445
4416.7	5294.617
4418.5	5663.88

Proposed Conditions

Elev (ft)	Vol (Acft)
4383.9	0.000
4386.7	0.430
4388.6	11.192
4390.4	34.561
4392.3	63.742
4394.2	98.155
4396.1	102.635
4397.9	454.058
4399.8	808.926
4401.7	1163.385
4403.6	1519.248
4405.4	1878.885
4407.3	2238.349
4409.2	2599.527
4411	2964.295
4412.9	3328.588
4414.8	3696.445
4416.7	4064.617
4418.5	4433.880

Assumptions: land uses within this storage area are: single family residential
fill was placed up to the 100-year wsel
90% of storage area assumed to be developable below 4396 ft
removed approximately 1230 acft above 4396 ft



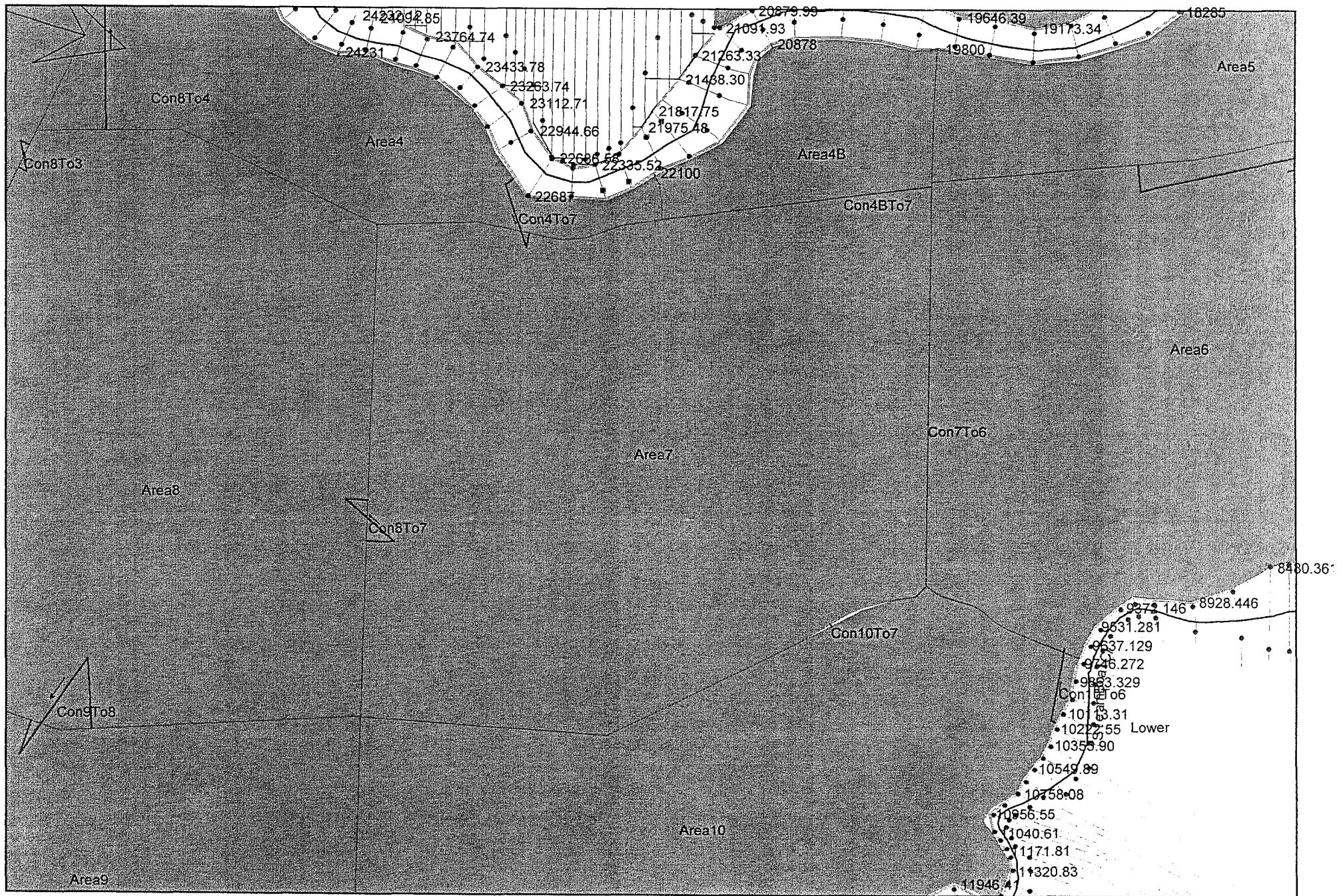
WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

30-Jan-03

Storage Area: 7

Existing Conditions		Proposed Conditions	
Elev (ft)	Vol (Acft)	Elev (ft)	Vol (Acft)
4381.1	0	4381.1	0.000
4384.9	0.08	4384.9	0.080
4385.8	0.28	4385.8	0.280
4386.6	0.62	4386.6	0.620
4387.4	1.36	4387.4	1.360
4388.3	2.88	4388.3	2.880
4389.1	11.57	4389.1	8.678
4389.9	59.67	4389.9	44.753
4390.8	149.18	4390.8	111.885
4391.6	267.84	4391.6	200.680
4392.5	422.81	4392.5	317.108
4393.3	601.73	4393.3	451.298
4394.1	787.79	4394.1	590.843
4395	978.5	4395	733.875
4395.8	1170.29	4395.8	877.718
4396.6	1359.96	4396.6	1019.970
4410	4537	4410	3402.750

Assumptions: land uses within this storage area are: minor improvements, single family residential
fill was placed up to the 100-year wsel
25% of storage area assumed to be developable above 4389 ft



WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

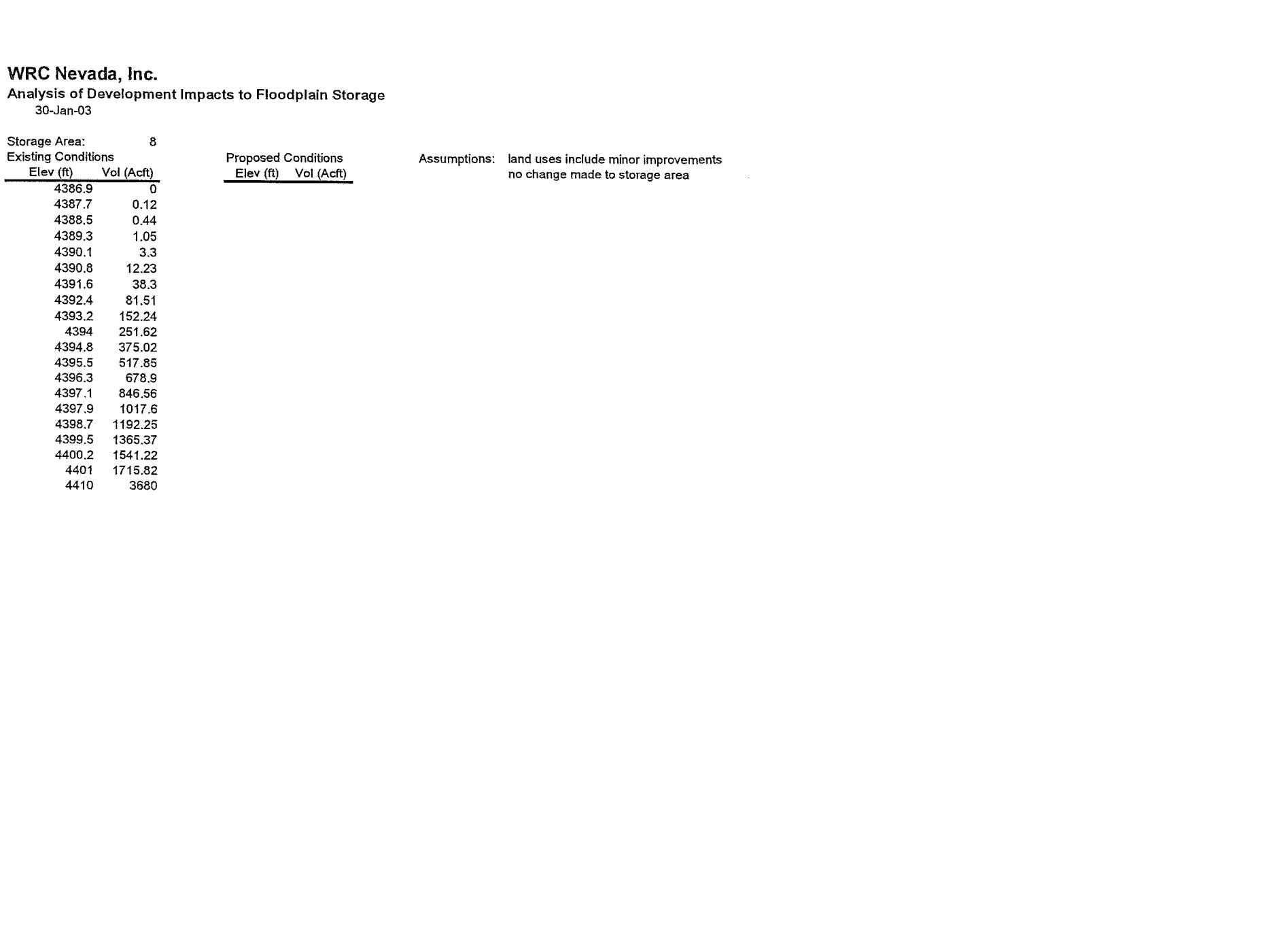
30-Jan-03

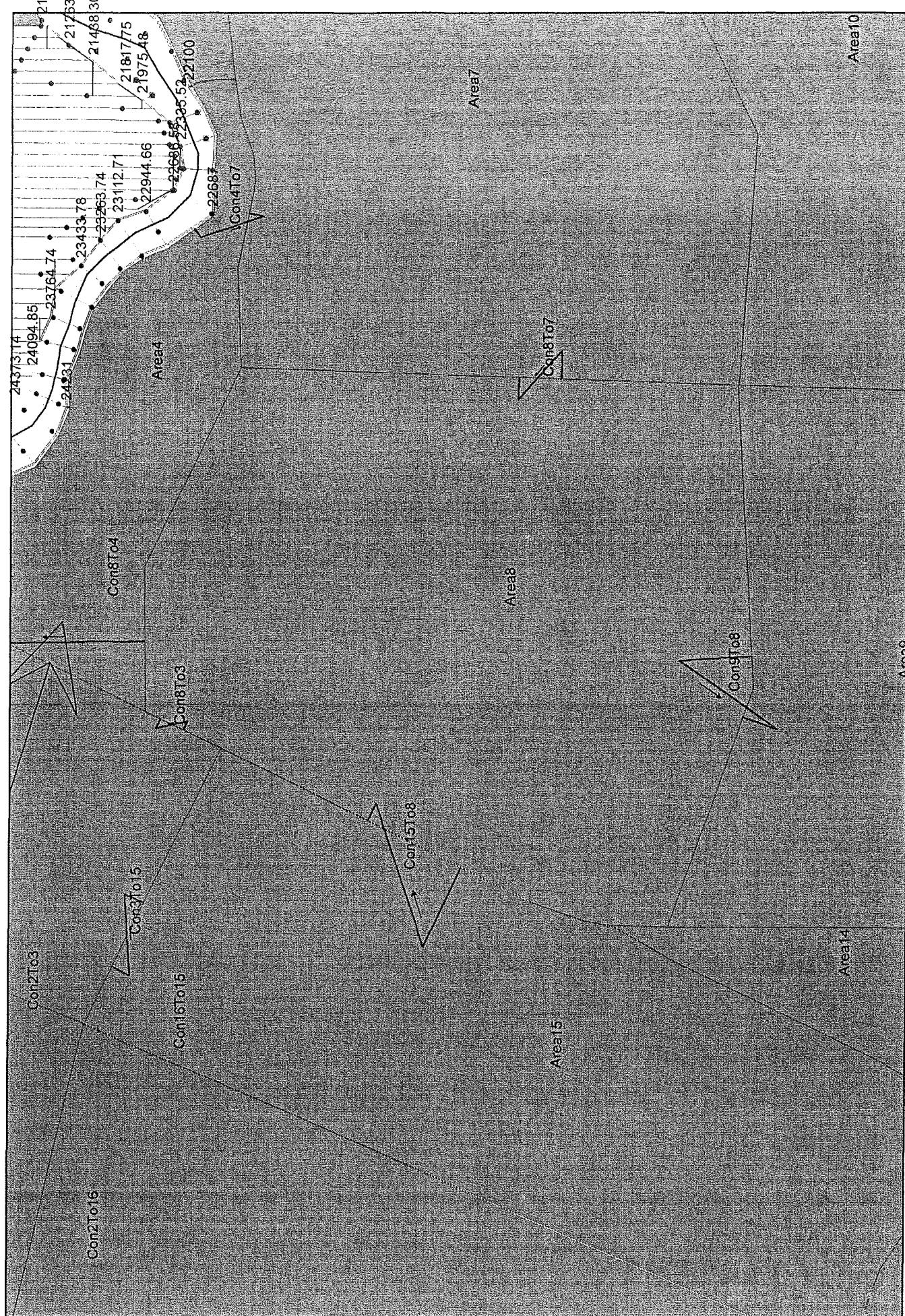
Storage Area: 8

Existing Conditions

Elev (ft)	Vol (Acft)
4386.9	0
4387.7	0.12
4388.5	0.44
4389.3	1.05
4390.1	3.3
4390.8	12.23
4391.6	38.3
4392.4	81.51
4393.2	152.24
4394	251.62
4394.8	375.02
4395.5	517.85
4396.3	678.9
4397.1	846.56
4397.9	1017.6
4398.7	1192.25
4399.5	1365.37
4400.2	1541.22
4401	1715.82
4410	3680

Proposed Conditions

Assumptions: land uses include minor improvements
no change made to storage area



WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

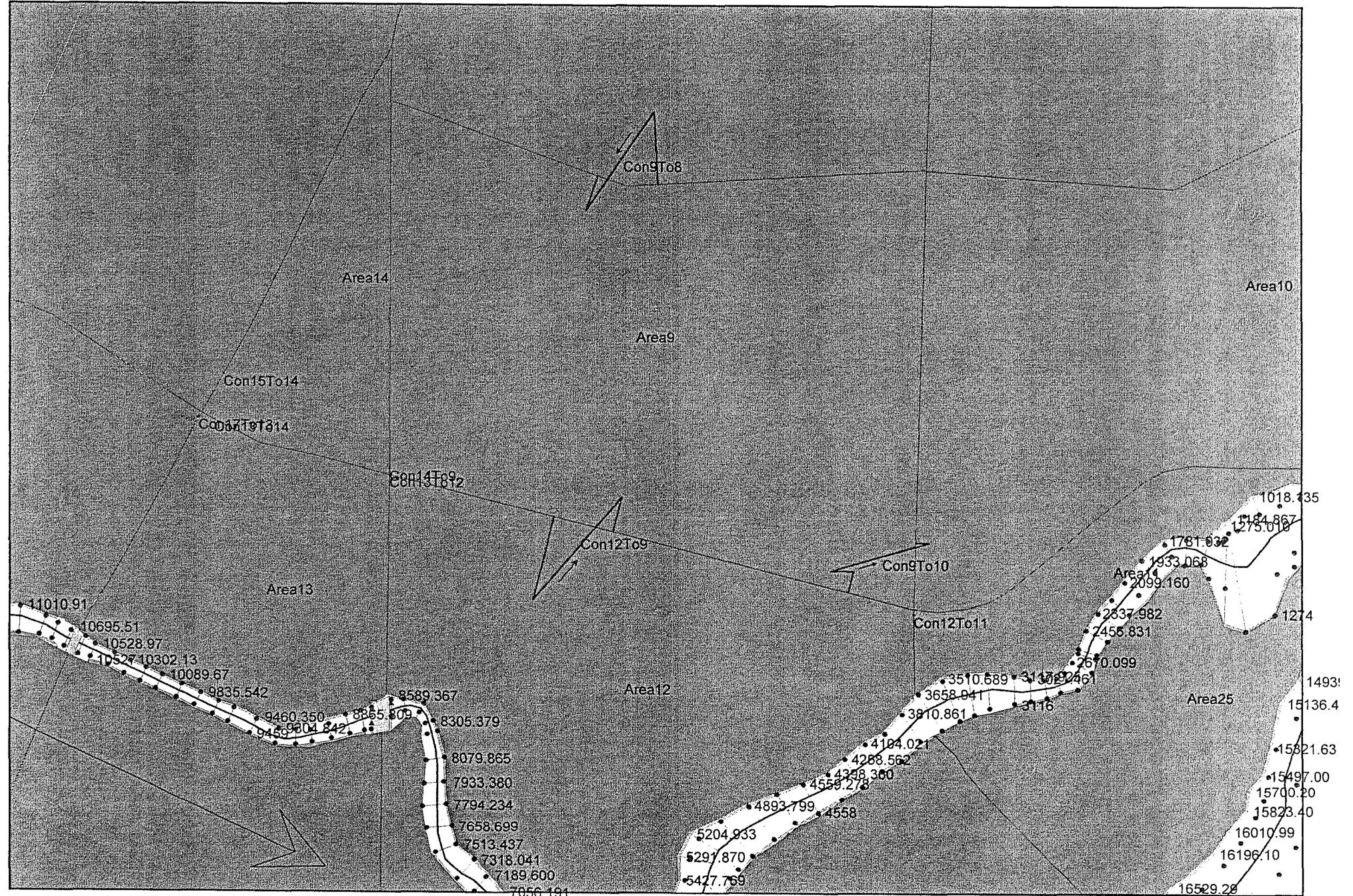
30-Jan-03

Storage Area: 9**Existing Conditions**

Elev (ft)	Vol (Acft)	Elev (ft)	Vol (Acft)
4386.1	0	4386.1	0
4387.3	0.13	4387.3	0.13
4388	0.61	4388	0.61
4388.7	1.65	4388.7	1.65
4389.4	8.07	4389.4	4.035
4390.1	23.32	4390.1	11.660
4390.8	52.5	4390.8	26.250
4391.5	96.61	4391.5	48.305
4392.2	159.84	4392.2	79.920
4392.9	239.43	4392.9	119.715
4393.5	335.3	4393.5	167.650
4394.2	443.79	4394.2	221.895
4394.9	560.61	4394.9	280.305
4395.6	678.19	4395.6	339.095
4396.3	798.68	4396.3	399.340
4397	918.11	4397	459.055
4397.7	1038.01	4397.7	519.005
4398.4	1160.02	4398.4	580.010
4399.1	1280.37	4399.1	640.185
4410	3154	4410	1577.000

Proposed Conditions**Elev (ft)****Vol (Acft)**

Assumptions: land uses within this storage area are: minor improvements, single family residential, commercial fill was placed up to the 100-year wsei
50% of storage area assumed to be developable above 4389 ft



WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

30-Jan-03

Storage Area: 10

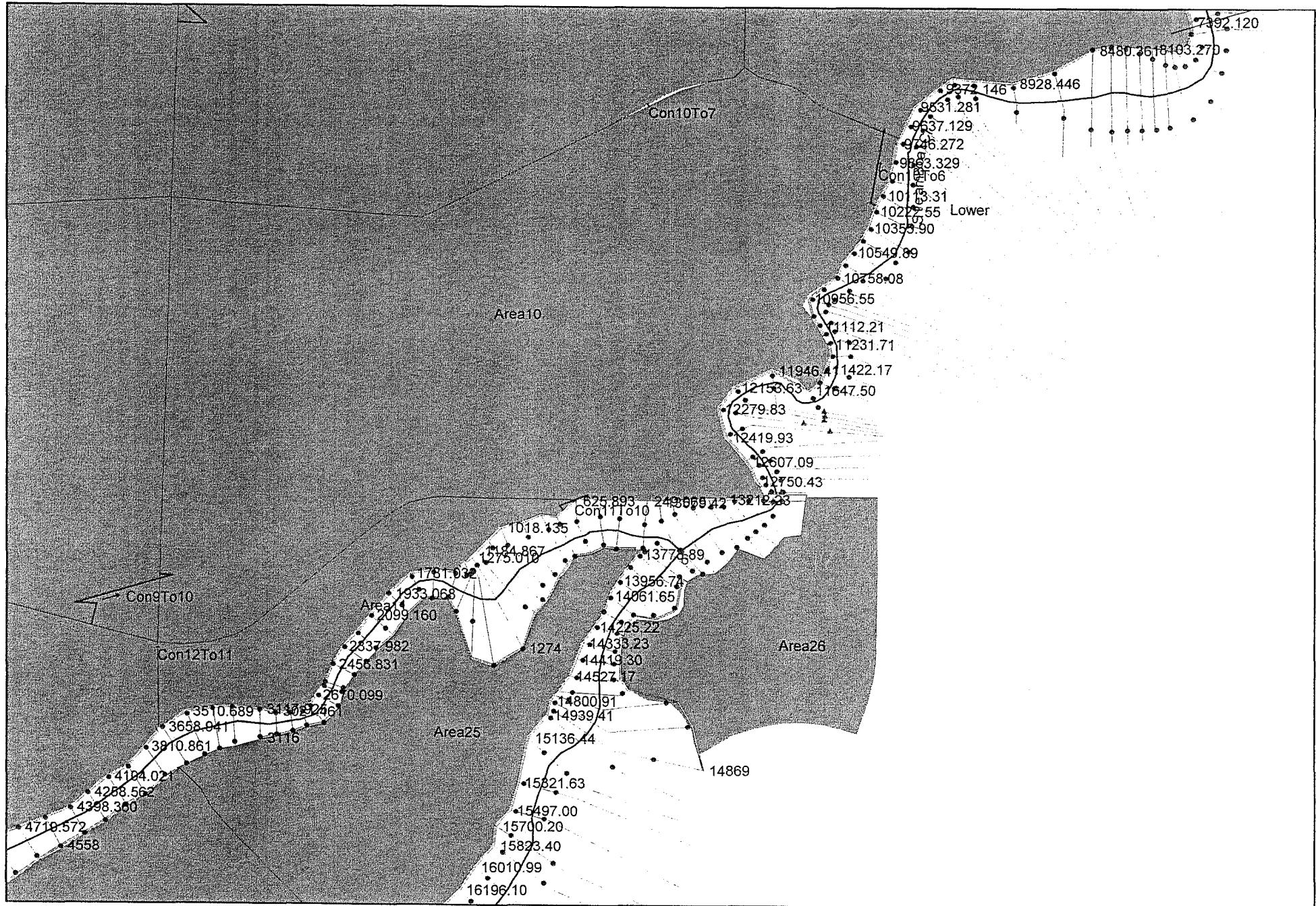
Existing Conditions

Elev (ft)	Vol (Acf)
4379.9	0
4380.8	0.1
4381.7	0.53
4382.5	1.39
4383.3	2.57
4384.1	4.06
4384.9	5.98
4385.8	8.43
4386.6	11.31
4387.4	14.71
4388.2	21.89
4389	45.53
4389.9	104.58
4390.7	192.35
4391.5	303.45
4392.3	439.73
4393.2	592.18
4394	755.94
4394.8	924.97
4410	4137

Proposed Conditions

Elev (ft)	Vol (Acf)
4379.9	0
4380.8	0.1
4381.7	0.53
4382.5	1.39
4383.3	2.57
4384.1	4.06
4384.9	5.98
4385.8	8.43
4386.6	11.31
4387.4	14.71
4388.2	19.235
4389	30.345
4389.9	43.973
4390.7	59.218
4391.5	75.594
4392.3	92.497
4393.2	4410
	413.700

Assumptions: land uses within this storage area are: minor improvements, pasture, single family residential
fill was placed up to the 100-year wsel
90% of storage area assumed to be developable above 4388 ft



WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

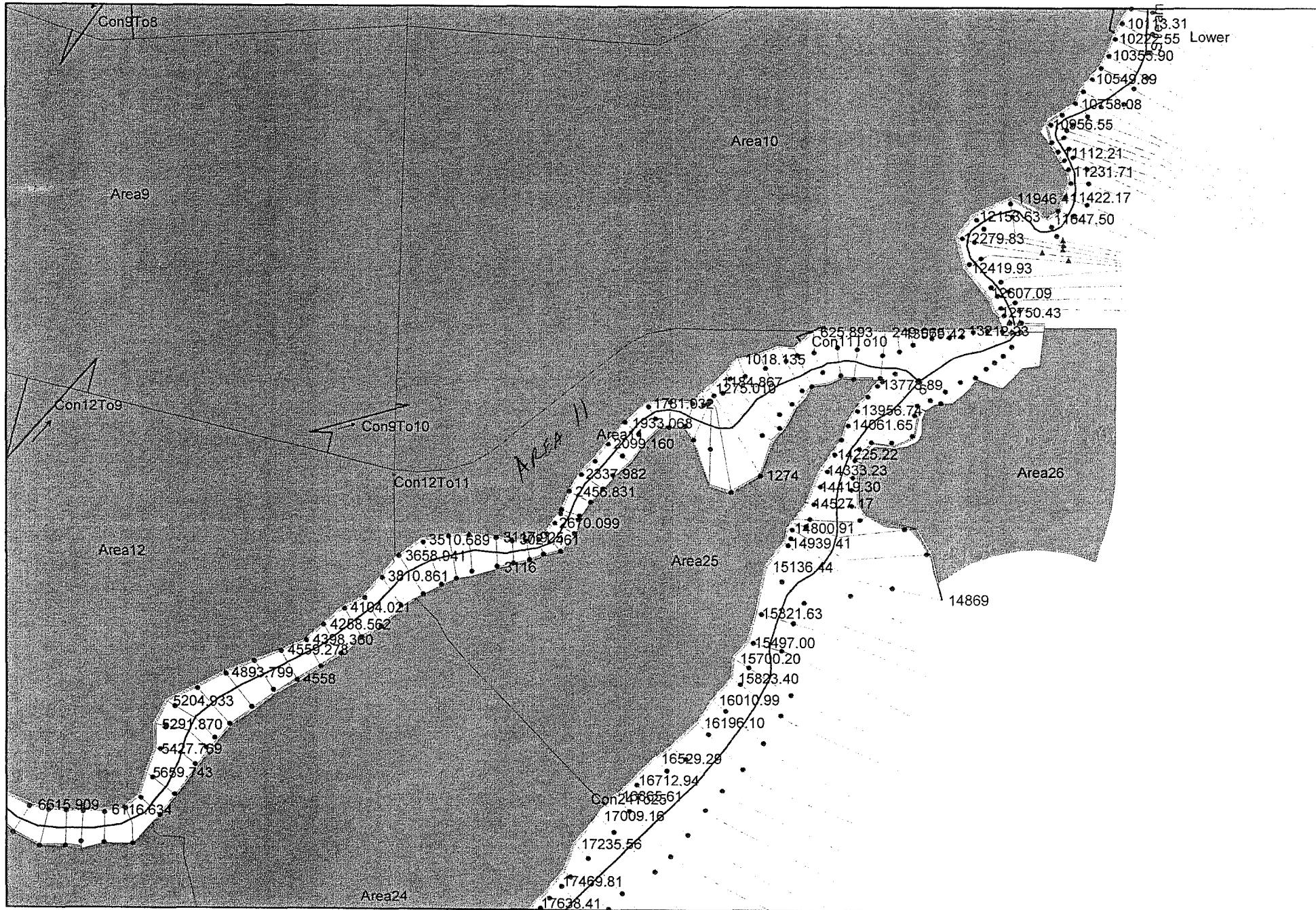
30-Jan-03

Storage Area: 11

Existing Conditions

Elev.(ft)	Vol (Acft)	Elev (ft)	Vol (Acft)
4385.5	0	4385.5	0
4386.3	0.04	4386.3	0.02
4387.1	0.17	4387.1	0.085
4387.9	0.64	4387.9	0.32
4388.6	1.97	4388.6	0.985
4389.4	4.4	4389.4	2.2
4390.2	7.63	4390.2	3.815
4390.9	11.4	4390.9	5.7
4391.7	15.84	4391.7	7.92
4392.5	21.17	4392.5	10.585
4393.3	28.54	4393.3	14.27
4394	38.44	4394	19.22
4394.8	51.11	4394.8	25.555
4395.6	65.78	4395.6	32.89
4396.3	82.05	4396.3	41.025
4397.1	99.65	4397.1	49.825
4397.9	117.53	4397.9	58.765
4398.6	135.82	4398.6	67.91
4399.4	154.16	4399.4	77.08
4410	397	4410	198.5

Proposed Conditions
Assumptions: land uses within this storage area are: single family residential, resort commercial
fill was placed up to the 100-year wsel
50% of storage area assumed to be developable above 4385.5 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

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Storage Area: 12

Existing Conditions

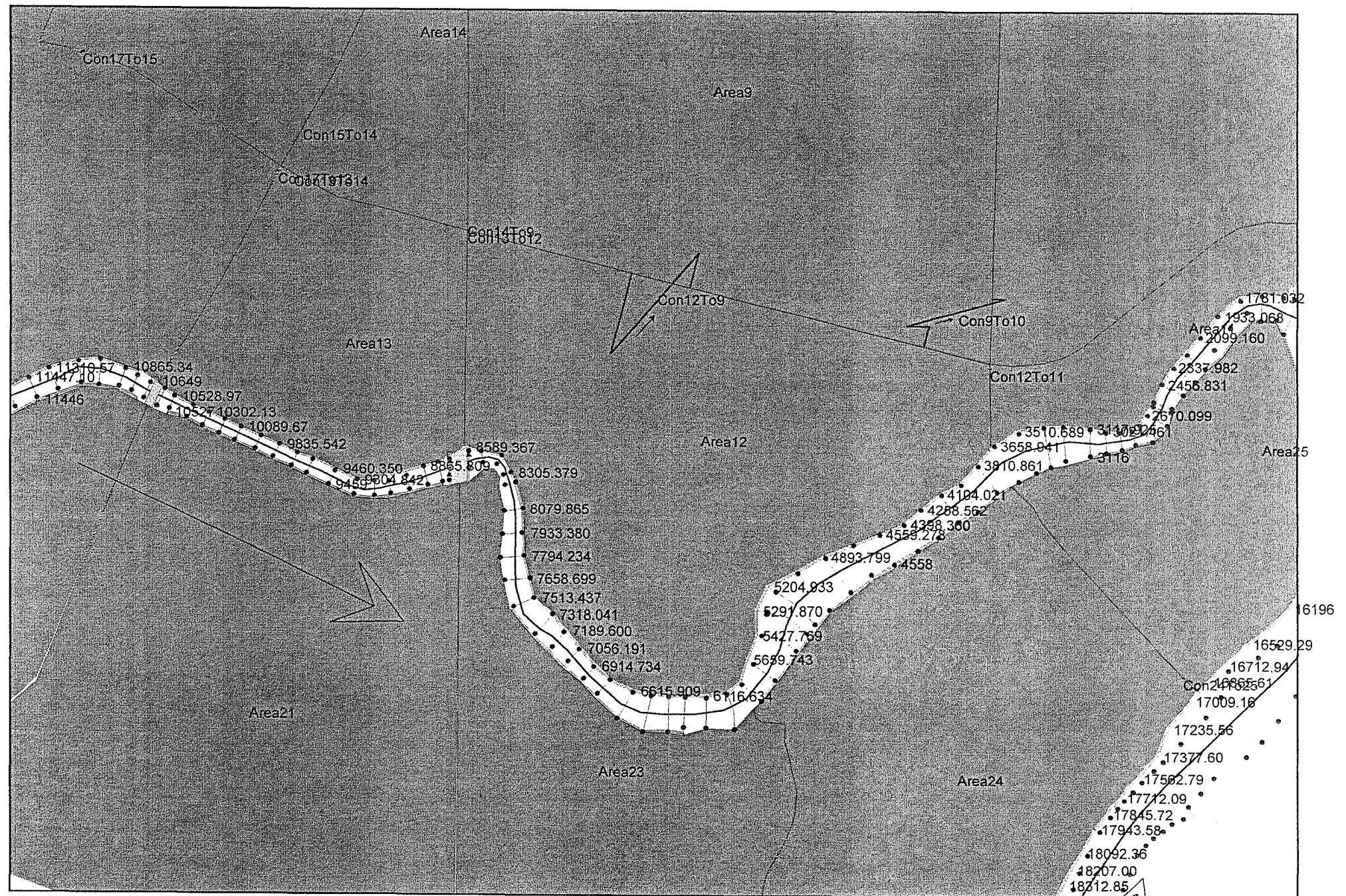
Elev (ft)	Vol (Acft)	Elev (ft)	Vol (Acft)
4385.5	0	4385.5	0.000
4388.6	0.05	4388.6	0.050
4389.3	0.16	4389.3	0.160
4390	0.38	4390	0.380
4390.8	1.62	4390.8	1.620
4391.5	9.33	4391.5	6.065
4392.2	25.48	4392.2	16.562
4393	52.13	4393	33.885
4393.7	92.89	4393.7	60.379
4394.5	147.14	4394.5	95.641
4395.2	216.52	4395.2	140.738
4395.9	298.04	4395.9	193.726
4396.7	387.06	4396.7	251.589
4397.4	481.55	4397.4	313.008
4398.1	577.55	4398.1	375.408
4398.9	673.87	4398.9	438.016
4410	2010	4410	1306.500

Proposed Conditions

Elev (ft)

Vol (Acft)

Assumptions: land uses within this storage area are: minor improvements, single family residential
fill was placed up to the 100-year wsel
35% of storage area assumed to be developable above 4391.0 ft



WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

30-Jan-03

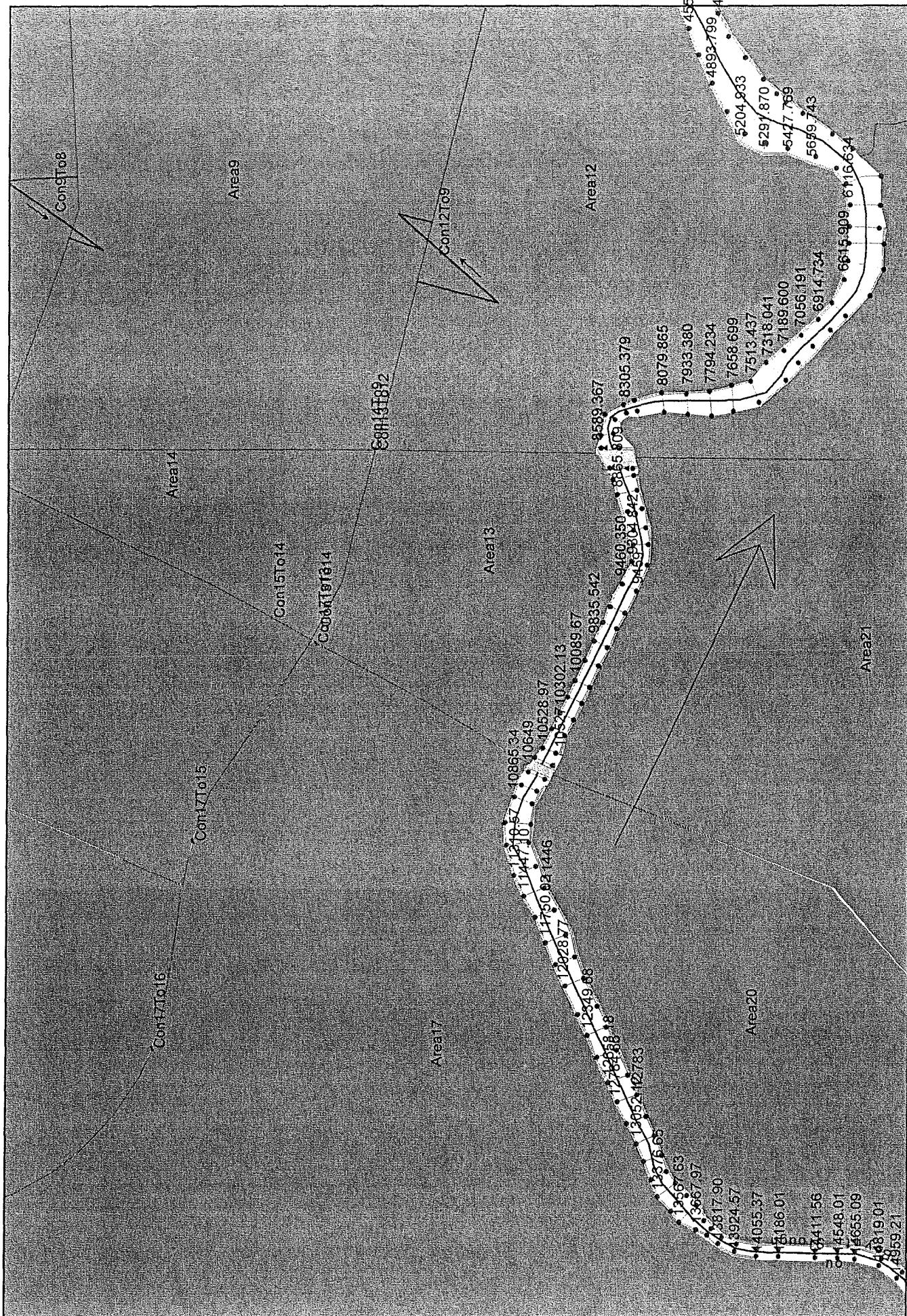
Storage Area: 13**Existing Conditions**

Elev (ft)	Vol (Acft)
4390.7	0
4392.9	0.01
4393.4	0.19
4393.9	1
4394.4	3.07
4394.9	6.74
4395.5	12.92
4396	22.84
4396.5	36.34
4397	53.08
4397.5	73.37
4398.1	97.69
4398.6	124.97
4399.1	153.27
4399.6	182.41
4400.1	211.78
4410	793

Proposed Conditions

Elev (ft)	Vol (Acft)
4390.7	0
4392.9	0.01
4393.4	0.057
4393.9	0.300
4394.4	0.921
4394.9	2.022
4395.5	3.876
4396	6.852
4396.5	10.902
4397	15.924
4397.5	22.011
4398.1	29.307
4398.6	37.491
4399.1	45.981
4399.6	54.723
4400.1	63.534
4410	237.900

Assumptions: land uses within this storage area are: single family residential, industrial
fill was placed up to the 100-year wsel
70% of storage area assumed to be developable above 4393.0 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

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Storage Area: 14

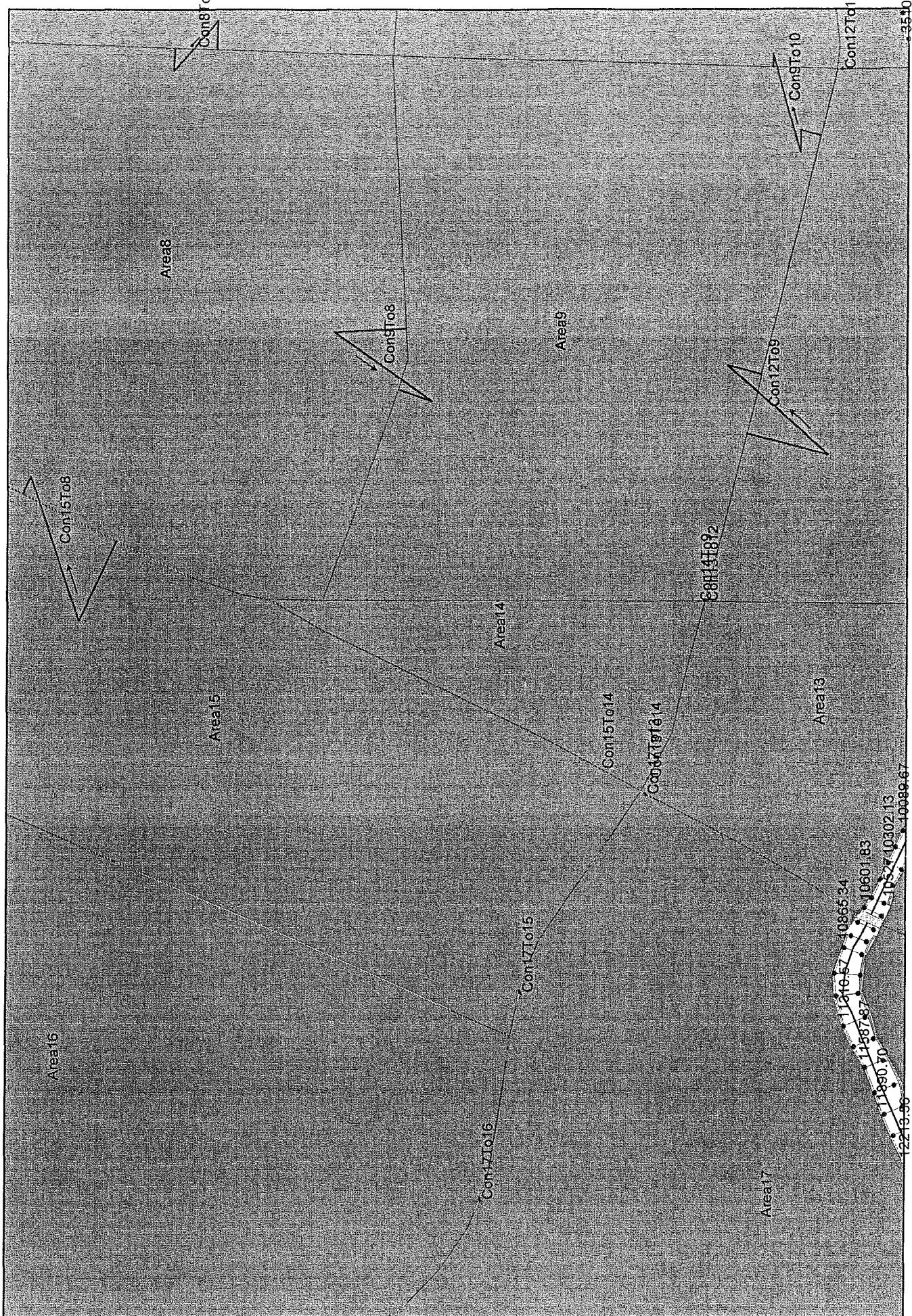
Existing Conditions

Elev (ft)	Vol (Acft)
4388.3	0
4389.1	0.03
4389.9	0.07
4390.7	0.1
4391.5	0.15
4392.3	0.2
4393.1	0.31
4393.9	1.65
4394.7	6.31
4395.5	13.73
4396.3	24.41
4397.1	37.87
4397.9	54.61
4398.7	74.8
4399.5	97.9
4400.3	123.02
4401.1	150.03
4401.9	177.88
4402.7	205.91
4410	462

Proposed Conditions

Elev (ft)	Vol (Acft)
4388.3	0
4389.1	0.03
4389.9	0.07
4390.7	0.1
4391.5	0.15
4392.3	0.2
4393.1	0.31
4393.9	1.65
4394.7	6.31
4395.5	6.865
4396.3	12.205
4397.1	18.935
4397.9	27.305
4398.7	37.400
4399.5	48.950
4400.3	61.510
4401.1	75.015
4401.9	88.940
4402.7	102.955
4410	231.000

Assumptions: land uses within this storage area are: residential motels, commercial, single family residential
fill was placed up to the 100-year wsel
50% of storage area assumed to be developable above 4395.0 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

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Storage Area: 27

Existing Conditions

Elev (ft)	Vol (Acft)
4380.4	0
4384.8	4,976
4388.4	73,527
4392.1	320,723
4395.8	723,066
4399.5	1206,405
4403.2	1707,386
4406.9	2221,46
4410.6	2746,868
4414.3	3282,574
4418	3826,164
4421.6	4374,564
4425.3	4926,692
4429	5480,895
4432.7	6036,856
4436.4	6593,897
4440.1	7151,936
4443.8	7709,03
4447.5	8268,338

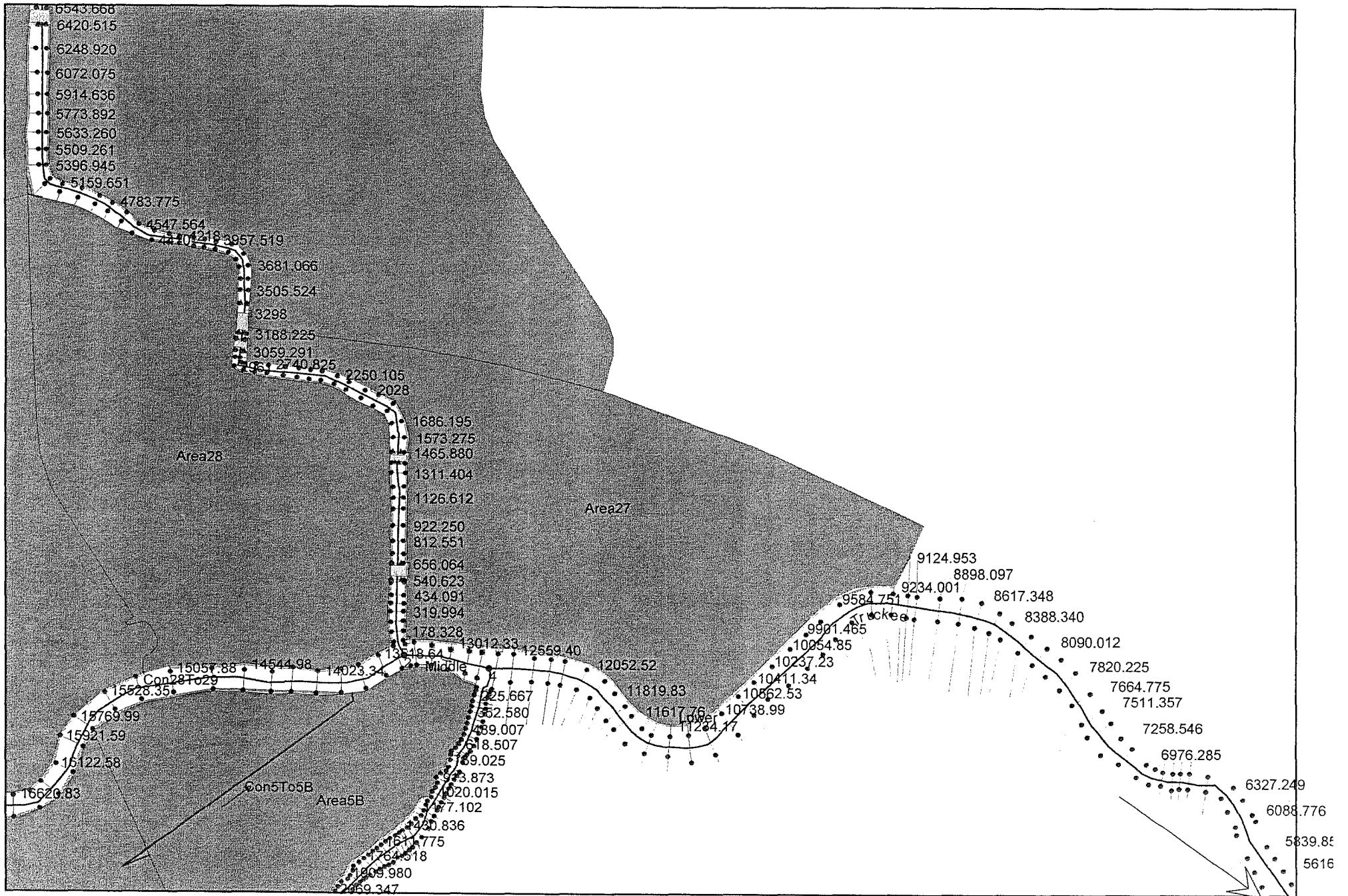
Proposed Conditions

Elev (ft)	Vol (Acft)
4380.4	0
4384.8	4,976
4388.4	73,527
4392.1	320,723
4395.8	546,066
4399.5	848,905
4403.2	1109,386
4406.9	1382,96
4410.6	1667,868
4414.3	1963,074
4418	2266,164
4421.6	2580,564
4425.3	2892,192
4429	3205,895
4432.7	3521,356
4436.4	3837,897
4440.1	4155,436
4443.8	4472,03
4447.5	4790,838

Assumptions: fill was placed up to the 100-year wsel

30 ac of storage removed between 4392 ft and 4394 ft

65 ac of storage removed above 4394 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

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Storage Area: 28

Existing Conditions

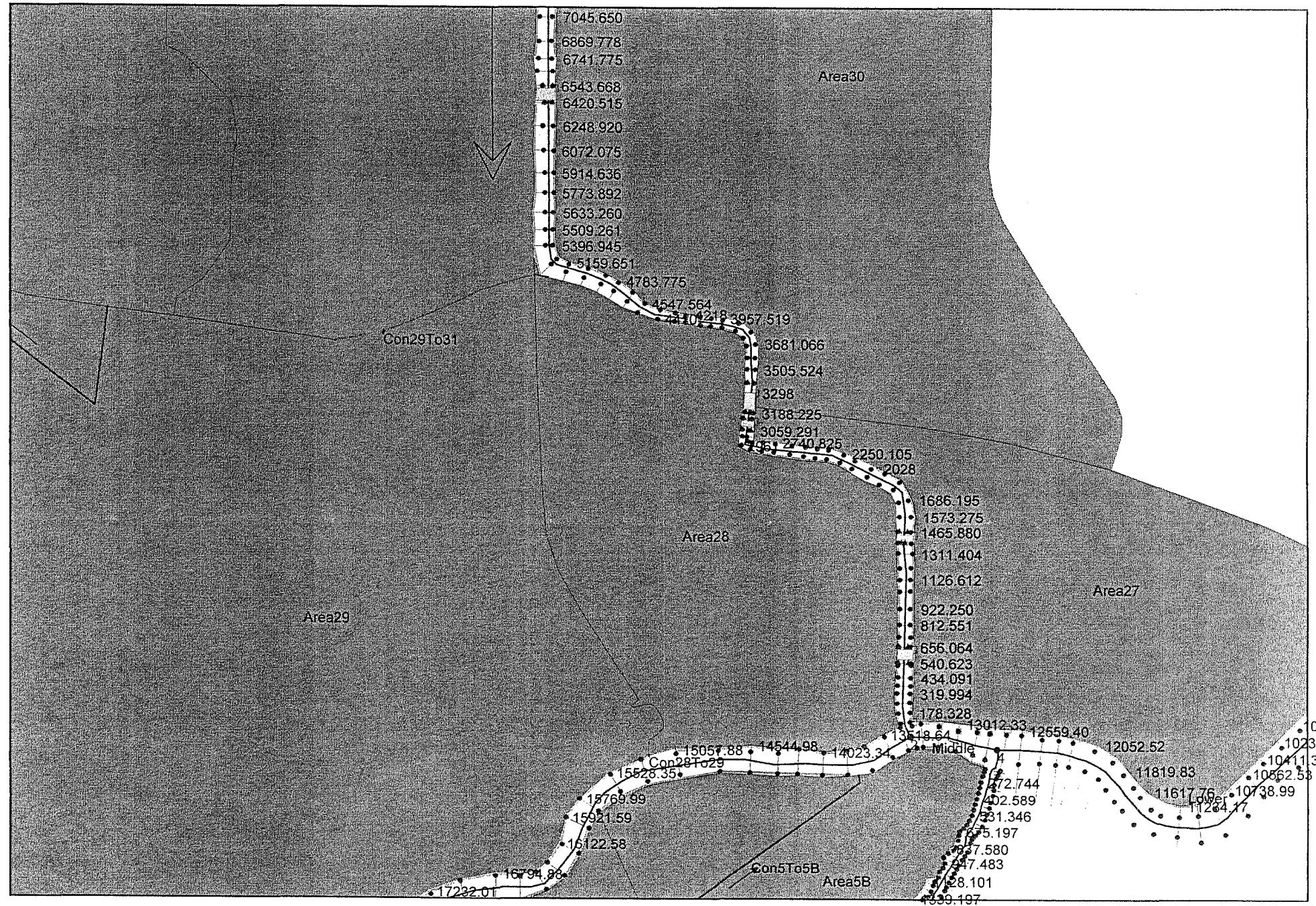
Elev (ft)	Vol (Acft)
4380.2	0
4382.7	0.781
4385.2	2.64
4387.8	21.152
4390.3	95.476
4392.8	256.661
4395.3	514.854
4397.8	842.216
4400.3	1189.332
4402.8	1540.198
4405.4	1891.407
4407.9	2245.43
4410.4	2599.775
4412.9	2956.784
4415.4	3313.114
4417.9	3671.406
4420.5	4030.143
4423	4388.14
4425.5	4748.158

Proposed Conditions

Elev (ft)	Vol (Acft)
4380.2	0
4382.7	0.781
4385.2	2.64
4387.8	21.152
4390.3	30.136
4402.8	79.888
4405.4	121.827
4407.9	178.475
4410.4	235.445
4412.9	295.079
4415.4	354.034
4417.9	414.951
4420.5	464.418
4423	525.04
4425.5	587.683

Assumptions: fill was placed up to the 100-year wsei

27 ac of storage removed between 4388 ft and 4390 ft
 37.8 ac of storage removed between 4390 ft and 4391 ft
 103.05 ac of storage removed between 4391 ft and 4392 ft
 109.35 ac of storage removed between 4392 ft and 4394 ft
 118.95 ac of storage removed above 4394 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 29

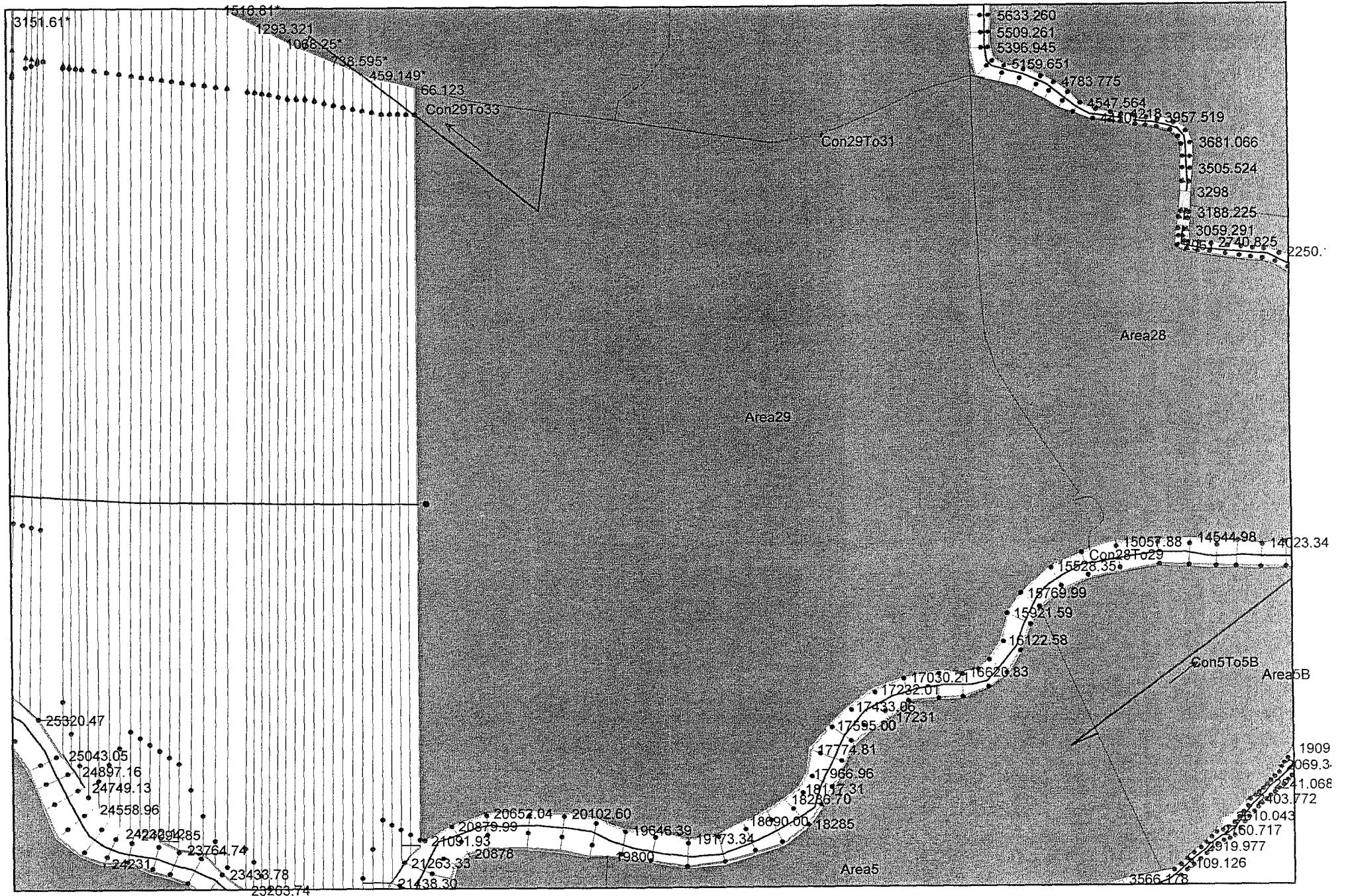
Existing Conditions

Elev (ft)	Vol (Acft)	Elev (ft)	Vol (Acft)
4383.1	0	4383.1	0
4385.7	2.46	4385.7	2.46
4388.1	42.918	4388.1	42.918
4390.4	314.032	4390.4	307.552
4392.8	1013.499	4392.8	943.899
4395.2	2019.182	4395.2	1866.782
4397.5	3124.993	4397.5	2893.243
4399.9	4261.699	4399.9	3947.149
4402.3	5395.518	4402.3	4998.168
4404.6	6530.456	4404.6	6053.756
4407	7671.751	4407	7112.251
4409.3	8808.619	4409.3	8169.769
4411.7	9946.575	4411.7	9224.925
4414.1	11089.94	4414.1	10285.49
4416.4	12229.44	4416.4	11345.64
4418.8	13369.45	4418.8	12402.85
4421.2	14515.36	4421.2	13465.96
4423.5	15656.74	4423.5	14527.99
4425.9	16798.58	4425.9	15587.03

Proposed Conditions

Assumptions:

- fill was placed up to the 100-year wsei
- 16.2 ac of storage removed between 4390 ft and 4391 ft
- 25.8 ac of storage removed between 4391 ft and 4392 ft
- 34.5 ac of storage removed above 4392 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

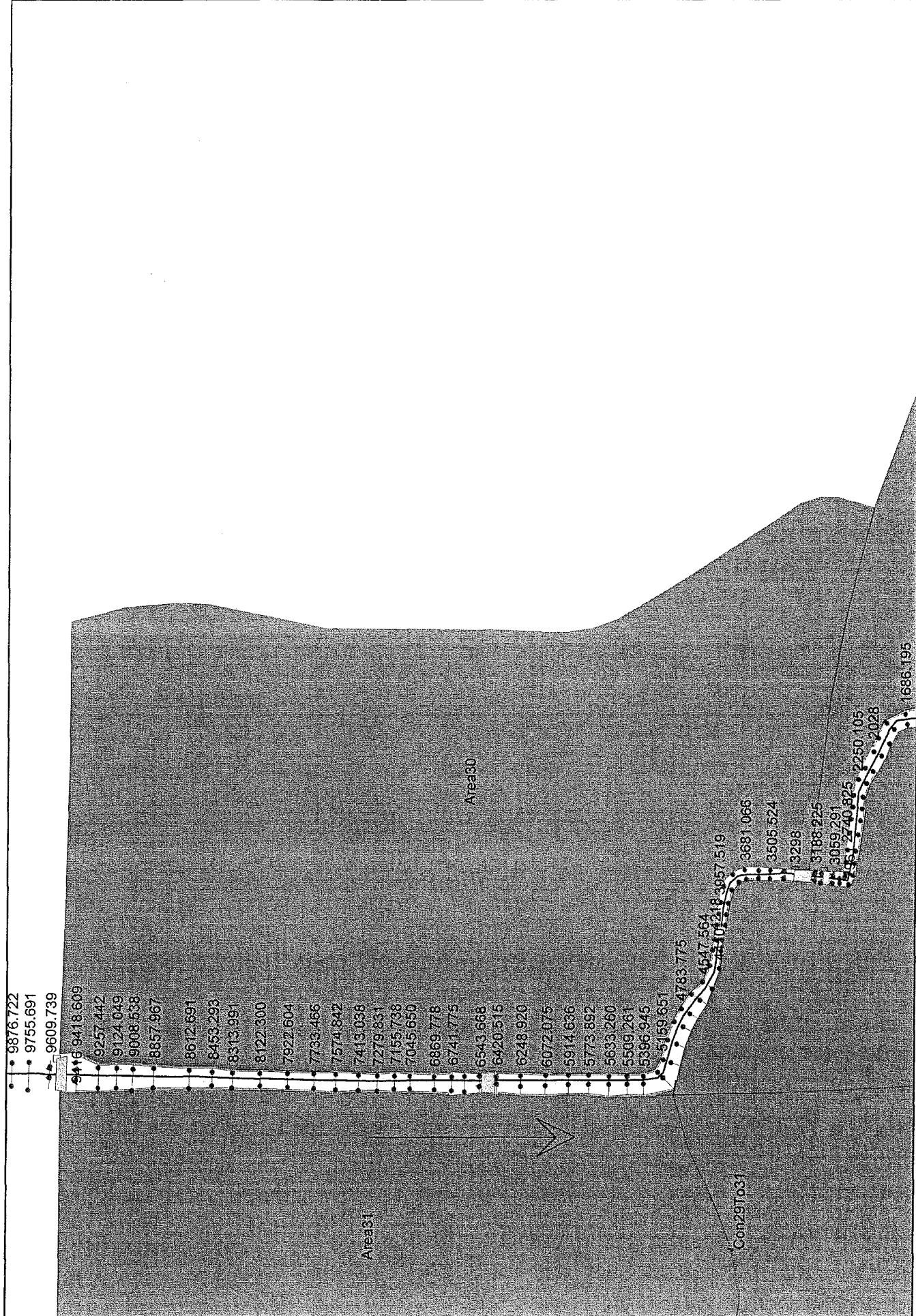
30-Jan-03

Storage Area: 30

Existing Conditions

Elev (ft)	Vol (Acft)	Elev (ft)	Vol (Acft)
4387.9	0	4387.9	0
4391.1	0.262	4391.1	0.262
4392.9	3.484	4392.9	3.484
4394.7	35.996	4394.7	21.716
4396.5	155.46	4396.5	104.46
4398.4	438.904	4398.4	343.624
4400.2	865.68	4400.2	694.2
4402	1436.1	4402	1160.4
4403.8	2090.458	4403.8	1701.118
4405.6	2776.039	4405.6	2270.059
4407.5	3470.71	4407.5	2841.61
4409.3	4168.899	4409.3	3423.159
4411.1	4869.144	4411.1	4006.764
4412.9	5569.996	4412.9	4590.976
4414.7	6271.576	4414.7	5175.916
4416.6	6973.854	4416.6	5755.074
4418.4	7676.351	4418.4	6340.931
4420.2	8383.054	4420.2	6930.994
4422	9086.289	4422	7517.589

Proposed Conditions
Assumptions:
fill was placed up to the 100-year wsel
20.4 ac of storage removed between 4394 ft and 4398 ft
34.2 ac of storage removed between 4398 ft and 4399 ft
44.1 ac of storage removed between 4399 ft and 4400 ft
57.9 ac of storage removed between 4400 ft and 4402 ft
61.8 ac of storage removed between 4402 ft and 4403 ft
64.8 ac of storage removed above 4403 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 31

Existing Conditions

Elev (ft)	Vol (Acft)		Elev (ft)	Vol (Acft)
4382.3	0		4382.3	0
4386	0.37		4386	0.37
4387.4	3.38		4387.4	3.38
4388.8	15.63		4388.8	3.79
4390.2	59.68		4390.2	17.02
4391.6	182.27		4391.6	73.31
4393	379.66		4393	197.9
4394.4	618.42		4394.4	363.86
4395.8	891.18		4395.8	563.82
4397.2	1207.96		4397.2	807.8
4398.6	1559.36		4398.6	1086.4
4400	1928.38		4400	1382.62
4401.4	2302.89		4401.4	1684.33
4402.8	2680.85		4402.8	1989.49
4404.2	3056.61		4404.2	2292.45
4405.6	3435.29		4405.6	2598.33
4407	3811.52		4407	2901.76
4408.3	4190.6		4408.3	3213.24
4420	7602		4420	6016.24

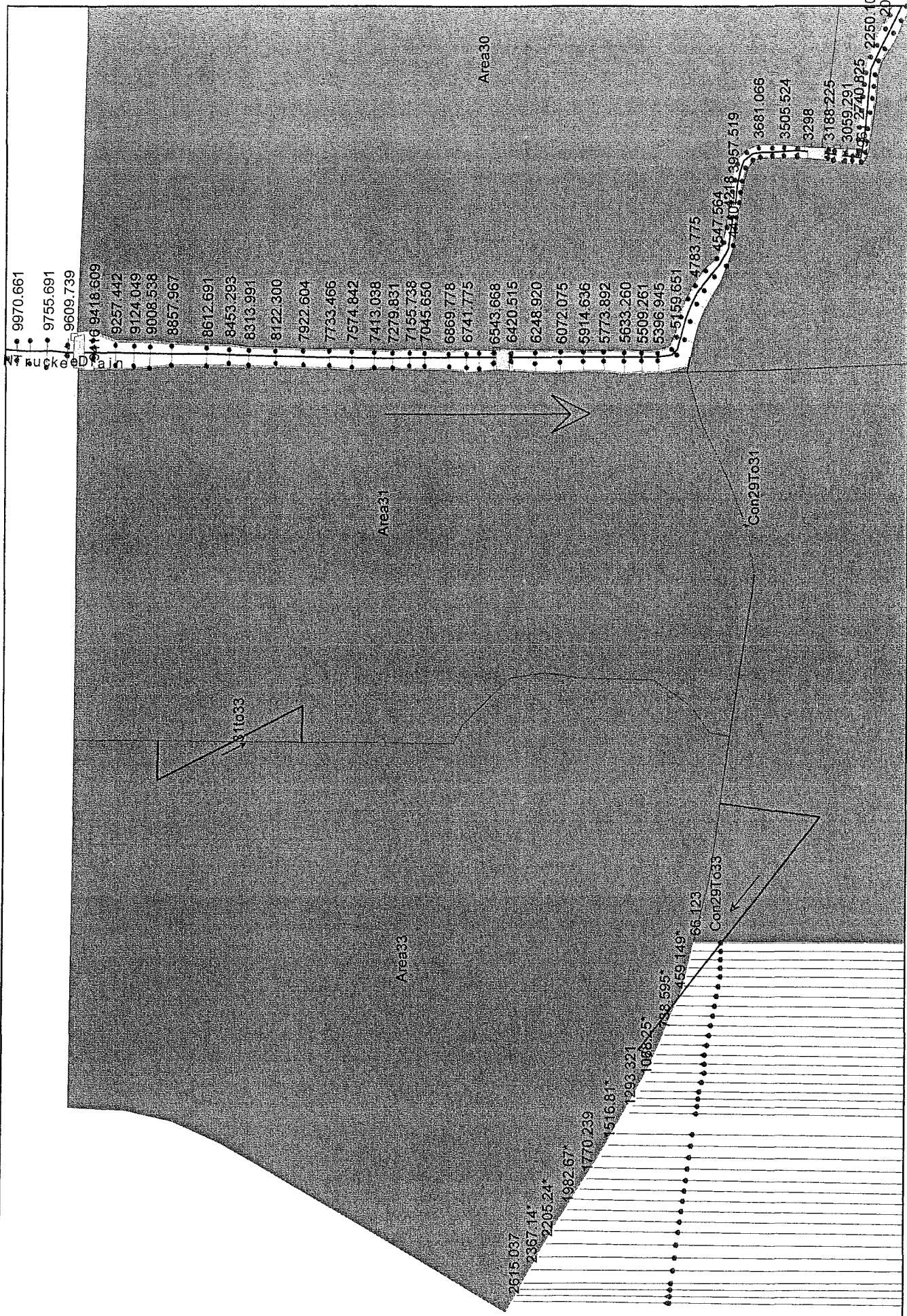
Proposed Conditions

Elev (ft)

Vol (Acft)

Assumptions:

- fill was placed up to the 100-year wsel
- 14.8 ac of storage removed between 4388 ft and 4389 ft
- 18.8 ac of storage removed between 4389 ft and 4390 ft
- 45.3 ac of storage removed between 4390 ft and 4391 ft
- 50.1 ac of storage removed between 4391 ft and 4395 ft
- 52.0 ac of storage removed above 4395 ft



WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

30-Jan-03

Storage Area: 33

Existing Conditions

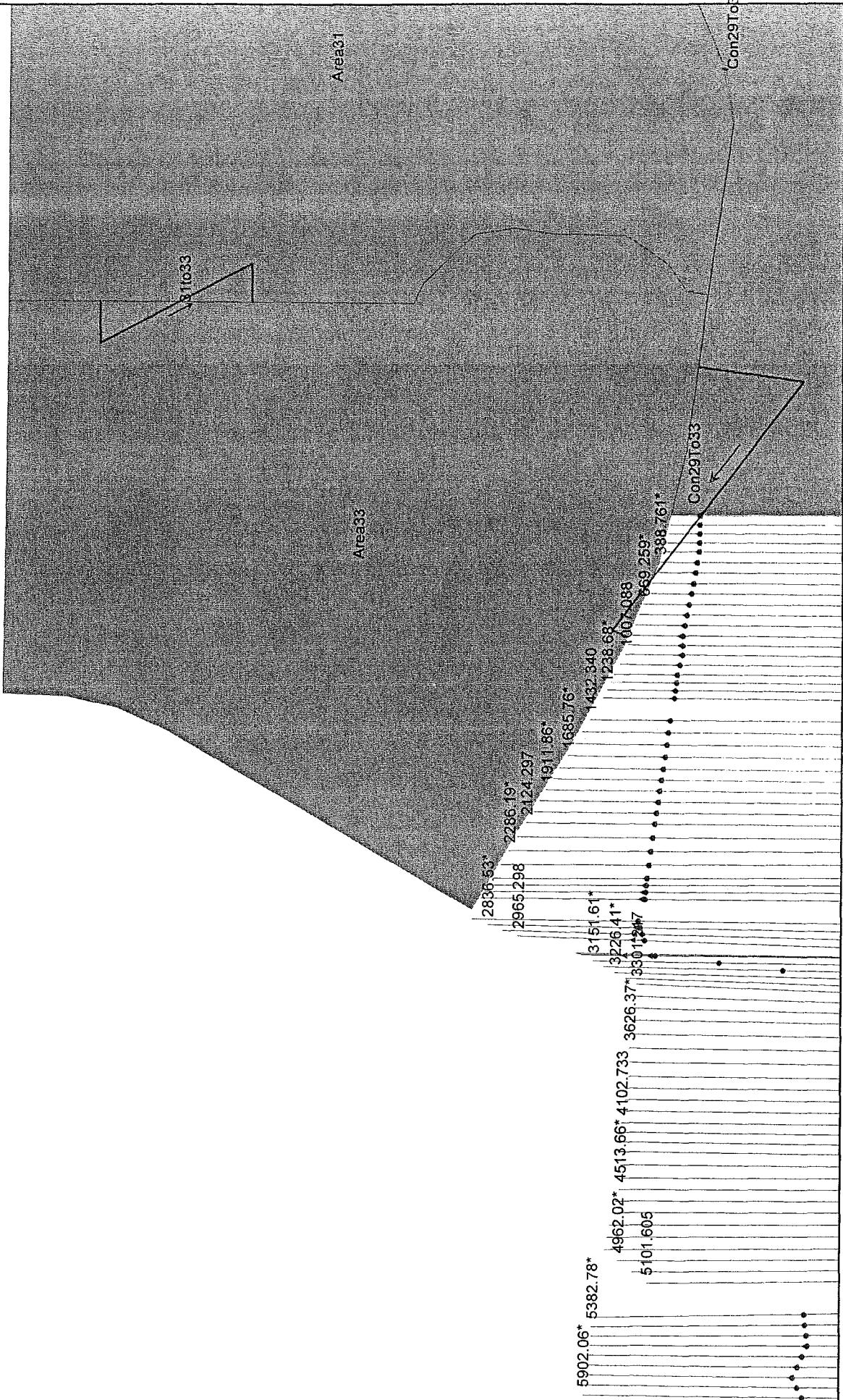
Elev (ft)	Vol (Acft)
4290	0
4358.6	2500
4362.1	2611.85
4365.4	2856.48
4368.6	3106.44
4371.9	3361.27
4375.2	3624.93
4378.5	3901.41
4381.7	4192.23
4385	4498.13
4388.3	4826.76
4391.5	5195.26
4394.8	5651.13
4398.1	6310.55
4401.3	7255.98
4404.6	8328.88
4407.9	9423.78
4411.1	10522.46
4414.4	11620.33
4417.7	12723.66
4420	13493

Proposed Conditions

Elev (ft)	Vol (Acft)
4290	0
4358.6	2500
4362.1	2611.85
4365.4	2856.48
4368.6	3106.44
4371.9	3361.27
4375.2	3624.93
4378.5	3901.41
4381.7	4192.23
4385	4498.13
4388.3	4826.76
4391.5	5195.26
4394.8	5643.75
4398.1	6272.9
4401.3	7188.57
4404.6	8230.78
4407.9	9294.99
4411.1	10363.91
4414.4	11431.09
4417.7	12503.73
4420	13242.38

Assumptions:

- fill was placed up to the 100-year wsel
- 1.7 ac of storage removed between 4393 ft and 4394 ft
- 7.1 ac of storage removed between 4394 ft and 4395 ft
- 9.3 ac of storage removed above 4395 ft



WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 31

Existing Conditions

Elev (ft)	Vol (Acft)
4382.3	0
4386	0.37
4387.4	3.38
4388.8	15.63
4390.2	59.68
4391.6	182.27
4393	379.66
4394.4	618.42
4395.8	891.18
4397.2	1207.96
4398.6	1559.36
4400	1928.38
4401.4	2302.89
4402.8	2680.85
4404.2	3056.61
4405.6	3435.29
4407	3811.52
4408.3	4190.6
4420	7602

Proposed Conditions

Elev (ft)	Vol (Acft)
4382.3	0
4386	0.37
4387.4	3.38
4388.8	23.06
4390.2	156.76
4391.6	308.08
4393	464.89
4394.4	625.15
4395.8	783.21
4397.2	944.19
4398.6	1102.72
4400	1279.65
4401.4	2871.7

Assumptions:

- fill was placed up to the 100-year wsel
- 20% of 88.5 ac in SA 33, 80% in SA 31
- 49.4 ac of storage removed between 4388 ft and 4389 ft
- 62.7 ac of storage removed between 4389 ft and 4390 ft
- 133.5 ac of storage removed between 4390 ft and 4391 ft
- 149.3 ac of storage removed between 4391 ft and 4395 ft
- 155.5 ac of storage removed above 4395 ft for Sparks Marina development

WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 33

Existing Conditions

Elev (ft)	Vol (Acft)		Elev (ft)	Vol (Acft)
4290	0		4290	0
4358.6	2500		4358.6	2500
4362.1	2611.85		4362.1	2611.85
4365.4	2856.48		4365.4	2856.48
4368.6	3106.44		4368.6	3106.44
4371.9	3361.27		4371.9	3361.27
4375.2	3624.93		4375.2	3624.93
4378.5	3901.41		4378.5	3901.41
4381.7	4192.23		4381.7	4192.23
4385	4498.13		4385	4498.13
4388.3	4826.76		4388.3	4826.76
4391.5	5195.26		4391.5	5168.71
4394.8	5651.13		4394.8	5566.17
4398.1	6310.55		4398.1	6167.18
4401.3	7255.98		4401.3	7055.97
4404.6	8328.88		4404.6	8070.46
4407.9	9423.78		4407.9	9106.95
4411.1	10522.46		4411.1	10148.99
4414.4	11620.33		4414.4	11188.45
4417.7	12723.66		4417.7	12233.37
4420	13493		4420	12944.3

Proposed Conditions

Assumptions:

- fill was placed up to the 100-year wsei
- 20% of 88.5 ac in SA 33, 80% in SA 31
- 17.7 ac of storage removed above 4390 ft for Sparks Marina development

WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

30-Jan-03

Storage Area: 9**Existing Conditions**

Elev (ft)	Vol (Acf)
4386.1	0
4387.3	0.13
4388	0.61
4388.7	1.65
4389.4	8.07
4390.1	23.32
4390.8	52.5
4391.5	96.61
4392.2	159.84
4392.9	239.43
4393.5	335.3
4394.2	443.79
4394.9	560.61
4395.6	678.19
4396.3	798.68
4397	918.11
4397.7	1038.01
4398.4	1160.02
4399.1	1280.37
4410	3154

Proposed Conditions

Elev (ft)	Vol (Acf)
4386.1	0
4387.3	0.13
4388	0.61
4388.7	1.65
4389.4	3.228
4390.1	9.328
4390.8	21.000
4391.5	38.644
4392.2	63.936
4392.9	95.772
4393.5	134.120
4394.2	177.516
4394.9	224.244
4395.6	271.276
4396.3	319.472
4397	367.244
4397.7	415.204
4398.4	464.008
4399.1	512.148
4410	1261.600

Assumptions: land uses within this storage area are: minor improvements, single family residential, commercial fill was placed up to the 100-year wsel
60% of storage area assumed to be developable above 4389 ft

WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

30-Jan-03

Storage Area: 10**Existing Conditions**

Elev (ft)	Vol (Acft)
4379.9	0
4380.8	0.1
4381.7	0.53
4382.5	1.39
4383.3	2.57
4384.1	4.06
4384.9	5.98
4385.8	8.43
4386.6	11.31
4387.4	14.71
4388.2	21.89
4389	45.53
4389.9	104.58
4390.7	192.35
4391.5	303.45
4392.3	439.73
4393.2	592.18
4394	755.94
4394.8	924.97
4410	4137

Proposed Conditions

Elev (ft)	Vol (Acft)
4379.9	0
4380.8	0.1
4381.7	0.53
4382.5	1.39
4383.3	2.57
4384.1	4.06
4384.9	5.98
4385.8	8.43
4386.6	11.31
4387.4	14.71
4388.2	19.701
4389	40.977
4389.9	94.122
4390.7	173.115
4391.5	273.105
4392.3	395.757
4393.2	532.962
4394	
4394.8	
4410	

Assumptions: land uses within this storage area are: minor improvements, pasture, single family residential
fill was placed up to the 100-year wsel
10% of storage area assumed to be developable above 4388 ft

WRC Nevada, Inc.**Analysis of Development Impacts to Floodplain Storage**

30-Jan-03

Storage Area: 12

Existing Conditions

Elev (ft)	Vol (Acft)	Elev (ft)	Vol (Acft)
4385.5	0	4385.5	0.000
4388.6	0.05	4388.6	0.050
4389.3	0.16	4389.3	0.160
4390	0.38	4390	0.380
4390.8	1.62	4390.8	1.620
4391.5	9.33	4391.5	7.931
4392.2	25.48	4392.2	21.658
4393	52.13	4393	44.311
4393.7	92.89	4393.7	78.957
4394.5	147.14	4394.5	125.069
4395.2	216.52	4395.2	184.042
4395.9	298.04	4395.9	253.334
4396.7	387.06	4396.7	329.001
4397.4	481.55	4397.4	409.318
4398.1	577.55	4398.1	490.918
4398.9	673.87	4398.9	572.790
4410	2010	4410	1708.500

Assumptions: land uses within this storage area are: minor improvements, single family residential
fill was placed up to the 100-year wsel
15% of storage area assumed to be developable above 4391.0 ft

WRC Nevada, Inc.

Analysis of Development Impacts to Floodplain Storage

30-Jan-03

Storage Area: 33

Raised Marina Project

Elev (ft)	Vol (Acft)	Elev (ft)	Vol (Acft)
4290	0	4290	0
4358.6	2500	4358.6	2500
4362.1	2611.85	4362.1	2611.85
4365.4	2856.48	4365.4	2856.48
4368.6	3106.44	4368.6	3106.44
4371.9	3361.27	4371.9	3361.27
4375.2	3624.93	4375.2	3624.93
4378.5	3901.41	4378.5	3901.41
4381.7	4192.23	4381.7	4192.23
4385	4498.13	4385	4498.13
4388.3	4826.76	4388.3	4826.76
4391.5	5168.71	4391.5	5168.71
4394.8	5566.17	4394.8	5558.79
4398.1	6167.18	4398.1	6129.86
4401.3	7055.97	4401.3	6989.21
4404.6	8070.46	4404.6	7973.34
4407.9	9106.95	4407.9	8979.47
4411.1	10148.99	4411.1	9992.07
4414.4	11188.45	4414.4	11001.17
4417.7	12233.37	4417.7	12015.73
4420	12944.3	4420	12705.5

Proposed Conditions

Elev (ft)

Vol (Acft)

Assumptions:

fill was placed up to the 100-year wsel

20% of 88.5 ac in SA 33, 80% in SA 31

17.7 ac of storage removed above 4390 ft for Sparks Marina development

1.7 ac of storage removed between 4393 ft and 4394 ft

7.1 ac of storage removed between 4394 ft and 4395 ft

9.2 ac of storage removed above 4395 ft

Appendix C

Existing Conditions Model

HEC-RAS Plan: 100yrexcon Profile: Max WS

River	Reach	River Sta	Profile	Q_Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
NTuckerDrain	Tributary	107,382	Max WS	1615.80	4375.48	4395.91		4395.95	0.000068	1.62	1074.71	104.84	0.08
NTuckerDrain	Tributary	178,328	Max WS	1290.69	4375.60	4395.94		4395.96	0.000052	1.30	1044.30	110.68	0.07
NTuckerDrain	Tributary	281,492	Max WS	1007.17	4375.80	4395.96		4395.98	0.000031	1.00	1059.25	108.01	0.06
NTuckerDrain	Tributary	319,994	Max WS	797.19	4375.90	4395.98		4395.98	0.000015	0.71	1164.41	122.27	0.04
NTuckerDrain	Tributary	375,106	Max WS	662.70	4375.99	4395.98		4395.99	0.000011	0.60	1161.38	117.40	0.03
NTuckerDrain	Tributary	434,091	Max WS	484.87	4376.15	4395.99		4395.99	0.000006	0.46	1099.25	111.51	0.02
NTuckerDrain	Tributary	523			Lat Struct								
NTuckerDrain	Tributary	523,133	Max WS	184.52	4376.26	4395.99		4395.99	0.000001	0.17	1067.10	102.81	0.01
NTuckerDrain	Tributary	539			Lat Struct								
NTuckerDrain	Tributary	540,623	Max WS	183.16	4375.97	4395.99		4395.99	0.000001	0.17	1069.88	113.80	0.01
NTuckerDrain	Tributary	580			Culvert								
NTuckerDrain	Tributary	656,064	Max WS	183.16	4375.98	4396.07		4396.07	0.000001	0.18	1001.00	91.95	0.01
NTuckerDrain	Tributary	723,402	Max WS	172.89	4377.02	4396.07		4396.07	0.000001	0.20	905.57	103.87	0.01
NTuckerDrain	Tributary	812,551	Max WS	161.08	4377.22	4396.07		4396.07	0.000001	0.19	902.18	104.04	0.01
NTuckerDrain	Tributary	922,250	Max WS	148.65	4377.39	4396.07		4396.07	0.000001	0.18	870.93	82.57	0.01
NTuckerDrain	Tributary	1044,111	Max WS	135.44	4377.88	4396.07		4396.07	0.000001	0.16	892.64	83.36	0.01
NTuckerDrain	Tributary	1128,612	Max WS	124.96	4377.82	4396.07		4396.07	0.000001	0.13	987.88	119.88	0.01
NTuckerDrain	Tributary	1207,861	Max WS	117.68	4377.98	4396.07		4396.07	0.000001	0.13	922.07	95.26	0.01
NTuckerDrain	Tributary	1311,404	Max WS	106.75	4378.21	4396.07		4396.07	0.000000	0.09	1226.01	122.00	0.00
NTuckerDrain	Tributary	1383			Lat Struct								
NTuckerDrain	Tributary	1384			Lat Struct								
NTuckerDrain	Tributary	1385,676	Max WS	99.77	4377.59	4396.07		4396.07	0.000000	0.07	1433.24	122.12	0.00
NTuckerDrain	Tributary	1422			Culvert								
NTuckerDrain	Tributary	1465,880	Max WS	103.27	4377.58	4396.08		4396.08	0.000000	0.08	1311.38	115.92	0.00
NTuckerDrain	Tributary	1573,275	Max WS	127.97	4378.00	4396.08		4396.08	0.000000	0.11	1233.95	138.09	0.01
NTuckerDrain	Tributary	1686,195	Max WS	144.14	4378.41	4396.08		4396.08	0.000000	0.14	1084.91	109.66	0.01
NTuckerDrain	Tributary	1814,655	Max WS	150.25	4378.62	4396.08		4396.08	0.000001	0.16	1082.51	119.88	0.01
NTuckerDrain	Tributary	1927,129	Max WS	149.28	4378.66	4396.08		4396.08	0.000000	0.14	1112.17	113.52	0.01
NTuckerDrain	Tributary	2028			Lat Struct								
NTuckerDrain	Tributary	2029,295	Max WS	162.18	4378.68	4396.08		4396.08	0.000000	0.15	1223.02	116.25	0.01
NTuckerDrain	Tributary	2155,553	Max WS	161.45	4378.84	4396.08		4396.08	0.000000	0.14	1325.38	111.25	0.01
NTuckerDrain	Tributary	2250,105	Max WS	162.82	4378.97	4396.08		4396.08	0.000000	0.15	1214.21	98.83	0.01
NTuckerDrain	Tributary	2357,439	Max WS	163.20	4379.05	4396.08		4396.08	0.000001	0.18	1019.43	93.19	0.01
NTuckerDrain	Tributary	2433,675	Max WS	163.11	4379.14	4396.08		4396.08	0.000001	0.17	1088.48	97.58	0.01
NTuckerDrain	Tributary	2524,351	Max WS	164.45	4379.12	4396.08		4396.08	0.000001	0.17	1065.68	95.19	0.01
NTuckerDrain	Tributary	2624,223	Max WS	165.04	4379.23	4396.08		4396.08	0.000001	0.18	1062.51	95.60	0.01
NTuckerDrain	Tributary	2740,825	Max WS	165.98	4379.38	4396.08		4396.08	0.000001	0.19	1022.87	97.18	0.01
NTuckerDrain	Tributary	2827,477	Max WS	166.60	4379.43	4396.08		4396.08	0.000001	0.20	922.28	82.14	0.01
NTuckerDrain	Tributary	2905,768	Max WS	167.79	4379.41	4396.08		4396.08	0.000001	0.22	889.06	81.28	0.01
NTuckerDrain	Tributary	2961			Lat Struct								
NTuckerDrain	Tributary	2962,043	Max WS	168.32	4379.48	4396.08		4396.08	0.000001	0.18	1087.97	109.30	0.01
NTuckerDrain	Tributary	3010,569	Max WS	168.37	4379.55	4396.08		4396.08	0.000001	0.22	959.10	93.61	0.01
NTuckerDrain	Tributary	3059,291	Max WS	168.41	4379.52	4396.08		4396.08	0.000001	0.21	991.09	94.49	0.01
NTuckerDrain	Tributary	3100			Bridge								
NTuckerDrain	Tributary	3145,065	Max WS	168.44	4379.58	4396.17	4381.04	4396.17	0.000001	0.22	803.22	88.68	0.01
NTuckerDrain	Tributary	3188,225	Max WS	168.09	4381.11	4396.17		4396.17	0.000002	0.31	538.22	86.56	0.01
NTuckerDrain	Tributary	3298			Culvert								
NTuckerDrain	Tributary	3406,869	Max WS	168.48	4381.87	4396.34		4396.34	0.000002	0.31	538.95	65.93	0.02
NTuckerDrain	Tributary	3505,524	Max WS	168.71	4382.05	4396.34		4396.34	0.000004	0.32	552.06	81.06	0.02
NTuckerDrain	Tributary	3588,525	Max WS	168.78	4382.10	4396.34		4396.34	0.000005	0.35	500.11	86.98	0.02
NTuckerDrain	Tributary	3681,065	Max WS	215.04	4382.26	4396.34		4396.34	0.000007	0.42	524.14	80.38	0.03
NTuckerDrain	Tributary	3759,033	Max WS	288.99	4382.36	4396.34		4396.34	0.000011	0.53	551.36	69.33	0.03
NTuckerDrain	Tributary	3852,635	Max WS	401.72	4382.50	4396.33		4396.34	0.000015	0.69	621.63	86.77	0.04
NTuckerDrain	Tributary	3957,519	Max WS	547.44	4382.64	4396.32		4396.33	0.000036	1.06	563.97	79.67	0.06
NTuckerDrain	Tributary	4038,556	Max WS	685.82	4382.73	4396.31		4396.33	0.000051	1.27	570.04	72.79	0.07
NTuckerDrain	Tributary	4112			Lat Struct								
NTuckerDrain	Tributary	4113,962	Max WS	791.38	4382.86	4396.30		4396.33	0.000046	1.26	661.52	80.92	0.07
NTuckerDrain	Tributary	4218			Culvert								
NTuckerDrain	Tributary	4219,063	Max WS	791.23	4382.94	4396.29		4396.33	0.000061	1.49	571.52	81.78	0.08
NTuckerDrain	Tributary	4295,627	Max WS	696.92	4383.09	4396.31		4396.34	0.000011	1.19	614.05	68.81	0.07
NTuckerDrain	Tributary	4410			Lat Struct								
NTuckerDrain	Tributary	4411,208	Max WS	605.22	4383.18	4396.33		4396.34	0.000008	0.98	638.84	79.98	0.06
NTuckerDrain	Tributary	4547,564	Max WS	574.85	4383.36	4396.33		4396.34	0.000005	0.77	742.83	83.26	0.05
NTuckerDrain	Tributary	4660,862	Max WS	563.71	4383.49	4396.33		4396.35	0.000010	0.98	581.50	99.61	0.06
NTuckerDrain	Tributary	4783,775	Max WS	560.08	4383.49	4396.33		4396.35	0.000013	1.09	514.72	72.58	0.07
NTuckerDrain	Tributary	4888,770	Max WS	558.32	4383.73	4396.33		4396.35	0.000012	1.05	541.16	95.80	0.07
NTuckerDrain	Tributary	5021,206	Max WS	552.54	4383.90	4396.34		4396.35	0.000009	0.94	598.04	97.65	0.06
NTuckerDrain	Tributary	5158			Lat Struct								
NTuckerDrain	Tributary	5159,651	Max WS	537.65	4384.09	4396.33		4396.35	0.000011	1.06	545.04	89.53	0.06
NTuckerDrain	Tributary	5270,003	Max WS	532.45	4384.09	4396.34		4396.35	0.000009	1.02	687.44	139.88	0.06
NTuckerDrain	Tributary	5396,945	Max WS	525.55	4384.46	4396.34		4396.36	0.000011	1.09	614.14	113.54	0.06
NTuckerDrain	Tributary	5509,261	Max WS	521.75	4384.58	4396.34		4396.36	0.000009	1.01	671.35	122.98	0.06
NTuckerDrain	Tributary	5633,280	Max WS	524.76	4384.62	4396.35		4396.36	0.000028	0.92	680.14	130.92	0.05
NTuckerDrain	Tributary	5773,892	Max WS	524.63	4384.99	4396.35		4396.36	0.000038	0.99	583.60	108.73	0.06
NTuckerDrain	Tributary	5914,636	Max WS	557.22	4385.04	4396.35		4396.37	0.000045	1.07	571.13	117.87	0.07
NTuckerDrain	Tributary	6072,075	Max WS	605.40	4385.23	4396.35		4396.37	0.000046	1.07	613.72	123.05	0.07

HEC-RAS Plan: 100vrexcon Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev. (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area: (sq ft)	Top Width (ft)	Froude # Chl
NTruckeeDrain	Tributary	6248.920	Max WS	683.94	4385.51	4396.35		4396.38	0.000102	1.41	534.66	124.19	0.10
NTruckeeDrain	Tributary	6418			Lat Struct								
NTruckeeDrain	Tributary	6419			Lat Struct								
NTruckeeDrain	Tributary	6420.515	Max WS	707.15	4385.66	4396.35		4396.40	0.000127	1.69	419.67	57.45	0.10
NTruckeeDrain	Tributary	6479			Culvert								
NTruckeeDrain	Tributary	6543.668	Max WS	784.80	4385.77	4396.65		4396.68	0.000069	1.35	588.03	115.70	0.08
NTruckeeDrain	Tributary	6649.255	Max WS	787.98	4385.97	4396.66		4396.69	0.000137	1.47	537.46	101.77	0.11
NTruckeeDrain	Tributary	6741.775	Max WS	793.54	4386.08	4396.66		4396.70	0.000167	1.62	491.03	111.11	0.12
NTruckeeDrain	Tributary	6889.778	Max WS	796.46	4386.27	4396.68		4396.72	0.000144	1.60	505.69	110.83	0.12
NTruckeeDrain	Tributary	7045.650	Max WS	797.27	4386.47	4396.71		4396.75	0.000124	1.52	527.60	105.11	0.11
NTruckeeDrain	Tributary	7155.738	Max WS	795.72	4386.62	4396.73		4396.76	0.000118	1.49	539.07	115.63	0.11
NTruckeeDrain	Tributary	7279.831	Max WS	797.38	4386.82	4396.74		4396.77	0.000130	1.49	536.56	96.13	0.11
NTruckeeDrain	Tributary	7413.038	Max WS	797.53	4386.94	4396.76		4396.79	0.000140	1.48	538.95	123.81	0.11
NTruckeeDrain	Tributary	7574.842	Max WS	797.38	4387.13	4396.78		4396.82	0.000134	1.45	560.66	127.28	0.11
NTruckeeDrain	Tributary	7733.466	Max WS	1014.77	4387.29	4396.81		4396.86	0.000207	1.88	548.66	107.71	0.14
NTruckeeDrain	Tributary	7922.604	Max WS	1017.08	4387.45	4396.84		4396.90	0.000229	2.01	508.71	98.67	0.15
NTruckeeDrain	Tributary	8120			Lat Struct								
NTruckeeDrain	Tributary	8121			Lat Struct								
NTruckeeDrain	Tributary	8122.300	Max WS	1017.72	4387.79	4396.89		4396.95	0.000245	2.08	501.95	114.84	0.15
NTruckeeDrain	Tributary	8313.991	Max WS	1017.65	4388.06	4396.95		4396.99	0.000196	1.79	597.14	138.26	0.14
NTruckeeDrain	Tributary	8453.293	Max WS	1021.87	4388.26	4396.97		4397.02	0.000201	1.86	595.33	153.47	0.14
NTruckeeDrain	Tributary	8612.691	Max WS	1031.45	4388.35	4396.99		4397.07	0.000396	2.26	466.75	101.89	0.19
NTruckeeDrain	Tributary	8857.967	Max WS	1032.61	4388.73	4397.09		4397.18	0.000502	2.42	426.78	102.09	0.21
NTruckeeDrain	Tributary	9008.538	Max WS	1033.30	4388.86	4397.16		4397.26	0.000549	2.54	406.75	96.83	0.22
NTruckeeDrain	Tributary	9124.049	Max WS	1038.24	4388.95	4397.22		4397.32	0.000565	2.57	404.47	97.01	0.22
NTruckeeDrain	Tributary	9257.442	Max WS	1038.15	4389.09	4397.28		4397.40	0.000601	2.75	377.94	85.12	0.23
NTruckeeDrain	Tributary	9416			Lat Struct								
NTruckeeDrain	Tributary	9417			Lat Struct								
NTruckeeDrain	Tributary	9418.609	Max WS	1044.11	4389.36	4397.39		4397.47	0.000228	2.17	481.07	151.81	0.15
NTruckeeDrain	Tributary	9523			Culvert								
NTruckeeDrain	Tributary	9609.739	Max WS	1049.18	4389.14	4397.77		4397.86	0.000275	2.42	432.90	64.89	0.16
NTruckeeDrain	Tributary	9755.691	Max WS	1049.70	4389.68	4397.84		4397.94	0.000747	2.55	411.48	123.08	0.25
NTruckeeDrain	Tributary	9876.722	Max WS	1050.29	4389.91	4397.93		4398.04	0.000906	2.66	394.65	128.08	0.27
NTruckeeDrain	Tributary	9970.661	Max WS	1050.89	4389.91	4398.00		4398.12	0.000854	2.79	376.13	108.52	0.26
NTruckeeDrain	Tributary	10060.93	Max WS	1051.19	4389.97	4398.08		4398.19	0.000632	2.67	393.81	92.83	0.23
NTruckeeDrain	Tributary	10159			Culvert								
NTruckeeDrain	Tributary	10224.98	Max WS	1052.64	4390.29	4398.25		4398.41	0.000731	3.17	331.97	64.14	0.25
NTruckeeDrain	Tributary	10249.67	Max WS	1052.22	4390.41	4398.24		4398.43	0.000989	3.50	300.65	67.56	0.29
NTruckeeDrain	Tributary	10318.94	Max WS	1052.06	4390.51	4398.29		4398.51	0.001265	3.82	275.52	65.98	0.33
NTruckeeDrain	Tributary	10403.03	Max WS	1056.60	4390.71	4398.47		4398.61	0.000992	2.99	353.46	103.27	0.28
NTruckeeDrain	Tributary	10586.82	Max WS	1058.15	4391.00	4398.64		4398.80	0.001057	3.18	332.91	92.91	0.30
NTruckeeDrain	Tributary	10757.07	Max WS	1060.09	4391.32	4398.84		4398.93	0.000520	2.37	446.47	114.69	0.21
NTruckeeDrain	Tributary	10953.31	Max WS	1061.02	4391.71	4398.95		4399.05	0.000765	2.53	419.87	131.45	0.25
NTruckeeDrain	Tributary	11153.09	Max WS	1063.86	4391.95	4399.08		4399.24	0.001095	3.18	334.34	95.98	0.30
NTruckeeDrain	Tributary	11303.18	Max WS	1065.89	4392.09	4399.23		4399.41	0.001159	3.37	316.63	86.32	0.31
NTruckeeDrain	Tributary	11493.21	Max WS	1067.23	4392.30	4399.43		4399.61	0.001010	3.41	312.72	75.19	0.29
NTruckeeDrain	Tributary	11682.43	Max WS	1069.18	4392.80	4399.61		4399.82	0.001208	3.65	292.66	73.07	0.32
NTruckeeDrain	Tributary	11844.90	Max WS	1070.87	4393.48	4399.80		4400.02	0.001258	3.78	283.25	69.38	0.33
NTruckeeDrain	Tributary	11980.38	Max WS	1071.21	4393.60	4399.98		4400.19	0.001235	3.71	288.47	71.69	0.33
NTruckeeDrain	Tributary	12155.32	Max WS	1072.03	4393.95	4400.19		4400.44	0.001582	3.99	268.55	71.39	0.36
NTruckeeDrain	Tributary	12362.30	Max WS	1076.29	4394.39	4400.55		4400.80	0.002002	4.07	264.20	82.25	0.40
NTruckeeDrain	Tributary	12585.95	Max WS	1077.97	4394.78	4400.98		4401.13	0.000916	3.05	353.61	95.11	0.28
NTruckeeDrain	Tributary	12752.35	Max WS	1078.04	4394.97	4401.12		4401.34	0.001675	3.77	285.81	87.77	0.37
NTruckeeDrain	Tributary	12836.48	Max WS	1078.07	4395.24	4401.27		4401.46	0.001042	3.42	315.38	78.47	0.30
NTruckeeDrain	Tributary	12929.29	Max WS	1078.14	4395.40	4401.33		4401.58	0.001613	3.99	270.22	74.14	0.37
NTruckeeDrain	Tributary	13020.16	Max WS	1078.14	4395.60	4401.47		4401.73	0.001717	4.11	262.45	72.13	0.38
NTruckeeDrain	Tributary	13127.54	Max WS	1078.20	4395.80	4401.61		4401.94	0.002273	4.61	233.63	66.42	0.43
NTruckeeDrain	Tributary	13259.96	Max WS	1078.16	4396.00	4401.87		4402.27	0.002677	5.09	211.68	58.22	0.47
NTruckeeDrain	Tributary	13328.54	Max WS	1078.21	4396.18	4402.09		4402.43	0.001936	4.64	232.42	57.55	0.41
SteamBoatCr	Lower	170.044	Max WS	5858.19	4371.85	4395.63		4395.86	0.000233	3.88	1521.78	105.31	0.18
SteamBoatCr	Lower	194.285	Max WS	5670.37	4372.89	4395.63		4395.88	0.000269	4.07	1401.62	100.04	0.19
SteamBoatCr	Lower	225.667	Max WS	5345.81	4373.22	4395.70		4395.92	0.000213	3.73	1445.36	97.82	0.17
SteamBoatCr	Lower	272.744	Max WS	4910.83	4373.65	4395.78		4395.96	0.000168	3.41	1459.66	93.62	0.15
SteamBoatCr	Lower	311.558	Max WS	4576.77	4373.93	4395.82		4395.99	0.000175	3.32	1399.62	100.06	0.16
SteamBoatCr	Lower	352.580	Max WS	4254.24	4373.87	4395.87		4396.02	0.000167	3.16	1364.62	101.05	0.15
SteamBoatCr	Lower	402.589	Max WS	3922.04	4373.49	4395.91		4396.05	0.000154	2.99	1338.38	101.27	0.14
SteamBoatCr	Lower	444.855	Max WS	3652.84	4373.55	4395.94		4396.08	0.000151	2.92	1265.62	96.60	0.14
SteamBoatCr	Lower	489.007	Max WS	3420.46	4373.49	4395.97		4396.10	0.000152	2.89	1202.12	93.98	0.14
SteamBoatCr	Lower	531.346	Max WS	3218.25	4373.38	4396.02		4396.12	0.000098	2.47	1322.72	93.96	0.11
SteamBoatCr	Lower	578.721	Max WS	3087.53	4373.33	4396.07		4396.13	0.000051	1.94	1608.99	99.69	0.08
SteamBoatCr	Lower	618.507	Max WS	3012.85	4373.22	4396.07		4396.13	0.000052	1.95	1567.34	96.58	0.08
SteamBoatCr	Lower	656.014	Max WS	2936.67	4373.18	4396.08		4396.14	0.000047	1.88	1584.76	95.87	0.08
SteamBoatCr	Lower	675.197	Max WS	2888.96	4373.27	4396.09		4396.14	0.000048	1.79	1633.73	111.61	0.08
SteamBoatCr	Lower	695.644	Max WS	2847.41	4373.00	4396.07		4396.14	0.000073	2.10	1373.52	98.43	0.10
SteamBoatCr	Lower	739.025	Max WS	2777.50	4373.12	4396.07		4396.15	0.000103	2.34	1267.21	113.89	0.11
SteamBoatCr	Lower	803.116	Max WS	2700.17	4374.07	4396.09		4396.16	0.000074	2.13	1326.07	107.88	0.10

HEC-RAS Plan: 100vrexcon Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope. (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SteamBoatCr	Lower	837.580	Max WS	2662.67	4374.90	4396.09		4396.16	0.000087	2.22	1307.98	118.45	0.11
SteamBoatCr	Lower	869			Lat Struct								
SteamBoatCr	Lower	870.947	Max WS	2632.19	4375.16	4396.10		4396.17	0.000084	2.08	1289.39	108.28	0.10
SteamBoatCr	Lower	913.873	Max WS	2615.82	4375.16	4396.11		4396.17	0.000098	2.07	1273.65	120.79	0.11
SteamBoatCr	Lower	947.483	Max WS	2595.85	4375.11	4396.09		4396.18	0.000104	2.32	1148.56	91.78	0.11
SteamBoatCr	Lower	986.015	Max WS	2551.79	4375.33	4396.09		4396.18	0.000119	2.50	1052.60	85.64	0.12
SteamBoatCr	Lower	1020.015	Max WS	2527.76	4375.55	4396.11		4396.19	0.000107	2.34	1113.78	93.70	0.12
SteamBoatCr	Lower	1061.007	Max WS	2520.39	4375.76	4396.11		4396.20	0.000107	2.43	1101.07	91.49	0.12
SteamBoatCr	Lower	1098.598	Max WS	2524.76	4375.65	4396.14		4396.20	0.000072	2.03	1381.53	133.79	0.10
SteamBoatCr	Lower	1128.101	Max WS	2541.85	4375.44	4396.13		4396.20	0.000082	2.15	1276.87	116.64	0.10
SteamBoatCr	Lower	1177.102	Max WS	2541.92	4375.38	4396.11		4396.21	0.000136	2.55	1102.46	112.70	0.13
SteamBoatCr	Lower	1221.705	Max WS	2541.98	4375.49	4396.11		4396.21	0.000142	2.62	1087.79	113.55	0.13
SteamBoatCr	Lower	1270.942	Max WS	2541.75	4375.82	4396.16		4396.21	0.000076	1.97	1321.69	127.47	0.10
SteamBoatCr	Lower	1339.197	Max WS	2542.07	4375.93	4396.16		4396.22	0.000085	1.97	1306.81	137.95	0.10
SteamBoatCr	Lower	1388.816	Max WS	2542.15	4376.25	4396.17		4396.22	0.000071	1.81	1411.33	144.43	0.10
SteamBoatCr	Lower	1430.836	Max WS	2542.22	4376.31	4396.18		4396.23	0.000060	1.66	1536.59	150.19	0.09
SteamBoatCr	Lower	1456.113	Max WS	2542.46	4376.42	4396.18		4396.23	0.000063	1.67	1526.59	149.95	0.09
SteamBoatCr	Lower	1491.787	Max WS	2542.51	4376.42	4396.19		4396.23	0.000062	1.66	1535.32	145.29	0.09
SteamBoatCr	Lower	1533.670	Max WS	2541.94	4376.58	4396.19		4396.23	0.000053	1.56	1625.82	155.85	0.08
SteamBoatCr	Lower	1571.944	Max WS	2542.26	4376.67	4396.20		4396.23	0.000051	1.57	1636.59	170.45	0.08
SteamBoatCr	Lower	1610			Lat Strct								
SteamBoatCr	Lower	1611.775	Max WS	2542.33	4376.76	4396.20		4396.24	0.000054	1.56	1640.16	172.49	0.08
SteamBoatCr	Lower	1650.082	Max WS	2542.40	4376.73	4396.20		4396.24	0.000059	1.63	1580.22	174.91	0.09
SteamBoatCr	Lower	1686.056	Max WS	2542.03	4376.72	4396.20		4396.24	0.000062	1.69	1538.83	169.60	0.09
SteamBoatCr	Lower	1725.015	Max WS	2542.47	4376.58	4396.20		4396.24	0.000069	1.78	1475.53	162.88	0.09
SteamBoatCr	Lower	1764.518	Max WS	2542.11	4376.64	4396.19		4396.25	0.000077	1.87	1411.49	163.80	0.10
SteamBoatCr	Lower	1811.719	Max WS	2542.60	4376.31	4396.19		4396.25	0.000078	1.94	1375.30	152.41	0.10
SteamBoatCr	Lower	1853.106	Max WS	2542.22	4376.21	4396.19		4396.25	0.000089	2.01	1329.96	154.63	0.11
SteamBoatCr	Lower	1876.472	Max WS	2542.27	4376.02	4396.19		4396.26	0.000081	2.04	1344.66	157.48	0.10
SteamBoatCr	Lower	1909.980	Max WS	2585.60	4375.89	4396.19		4396.26	0.000088	2.14	1376.21	169.52	0.11
SteamBoatCr	Lower	1944.241	Max WS	2658.96	4376.15	4396.19		4396.26	0.000102	2.33	1334.42	156.19	0.12
SteamBoatCr	Lower	1986.717	Max WS	2774.48	4376.45	4396.19		4396.26	0.000097	2.19	1429.18	162.25	0.11
SteamBoatCr	Lower	2030.680	Max WS	2913.32	4376.45	4396.19		4396.26	0.000075	2.06	1590.28	163.43	0.10
SteamBoatCr	Lower	2069.347	Max WS	3028.53	4376.59	4396.18		4396.25	0.000082	2.19	1535.19	153.48	0.11
SteamBoatCr	Lower	2112.440	Max WS	3125.79	4376.72	4396.15		4396.26	0.000120	2.68	1256.40	120.19	0.13
SteamBoatCr	Lower	2157.305	Max WS	3189.75	4376.85	4396.15		4396.26	0.000125	2.72	1263.75	122.36	0.13
SteamBoatCr	Lower	2200.879	Max WS	3243.49	4376.85	4396.14		4396.26	0.000146	2.86	1224.90	122.68	0.14
SteamBoatCr	Lower	2241.068	Max WS	3267.68	4376.85	4396.13		4396.27	0.000161	3.00	1180.52	119.47	0.15
SteamBoatCr	Lower	2280.799	Max WS	3278.21	4376.85	4396.13		4396.27	0.000169	3.12	1140.38	113.29	0.15
SteamBoatCr	Lower	2321.408	Max WS	3286.87	4376.85	4396.13		4396.28	0.000170	3.15	1134.71	112.39	0.15
SteamBoatCr	Lower	2358			Lat Strct								
SteamBoatCr	Lower	2359.917	Max WS	3310.79	4376.85	4396.14		4396.28	0.000163	3.11	1152.01	111.68	0.15
SteamBoatCr	Lower	2403.772	Max WS	3365.80	4376.40	4396.15		4396.28	0.000152	3.00	1219.49	119.35	0.14
SteamBoatCr	Lower	2449.652	Max WS	3448.91	4376.21	4396.16		4396.29	0.000140	3.09	1359.23	135.84	0.14
SteamBoatCr	Lower	2504.428	Max WS	3552.07	4375.83	4396.16		4396.29	0.000155	3.17	1375.78	139.88	0.14
SteamBoatCr	Lower	2554.089	Max WS	3657.78	4376.95	4396.16		4396.29	0.000160	3.21	1416.41	149.77	0.14
SteamBoatCr	Lower	2610.043	Max WS	3771.00	4375.82	4396.17		4396.29	0.000161	3.12	1511.31	163.08	0.14
SteamBoatCr	Lower	2659.902	Max WS	3905.42	4375.95	4396.19		4396.29	0.000124	2.81	1720.23	185.04	0.13
SteamBoatCr	Lower	2715.208	Max WS	4003.93	4376.53	4396.15		4396.30	0.000156	3.19	1461.44	159.54	0.15
SteamBoatCr	Lower	2760.717	Max WS	4046.49	4376.75	4396.13		4396.31	0.000221	3.56	1350.35	168.01	0.17
SteamBoatCr	Lower	2811.290	Max WS	4059.63	4377.07	4396.13		4396.32	0.000245	3.77	1364.68	168.25	0.18
SteamBoatCr	Lower	2863.930	Max WS	4095.12	4376.85	4396.14		4396.33	0.000227	3.77	1397.52	166.56	0.17
SteamBoatCr	Lower	2919.977	Max WS	4176.52	4376.72	4396.15		4396.34	0.000223	3.75	1435.10	168.63	0.16
SteamBoatCr	Lower	2984.158	Max WS	4247.11	4376.96	4396.13		4396.36	0.000276	4.04	1352.87	172.93	0.18
SteamBoatCr	Lower	3047.244	Max WS	4186.06	4377.16	4396.05		4396.40	0.000454	4.87	1026.65	167.09	0.24
SteamBoatCr	Lower	3109.126	Max WS	4084.42	4377.45	4396.10		4396.45	0.000486	4.93	1023.20	175.23	0.24
SteamBoatCr	Lower	3171			Lat Strct								
SteamBoatCr	Lower	3172.000	Max WS	4133.67	4377.35	4396.17		4396.46	0.000364	4.46	1121.23	176.46	0.21
SteamBoatCr	Lower	3566.178	Max WS	2737.78	4377.36	4396.41		4396.42	0.000020	1.20	4146.66	543.55	0.05
SteamBoatCr	Lower	3875.802	Max WS	2768.95	4376.78	4396.42		4396.43	0.000018	1.09	5052.73	718.73	0.05
SteamBoatCr	Lower	4023			Lat Strct								
SteamBoatCr	Lower	4024.010	Max WS	2770.01	4377.18	4396.40		4396.45	0.000066	1.83	2098.49	393.40	0.09
SteamBoatCr	Lower	4061			Bridge								
SteamBoatCr	Lower	4075.498	Max WS	2769.72	4377.23	4396.53	4382.28	4396.53	0.000009	0.79	6672.60	792.25	0.03
SteamBoatCr	Lower	4149.066	Max WS	2685.37	4377.10	4396.53		4396.54	0.000014	0.90	4507.97	483.33	0.04
SteamBoatCr	Lower	4216.902	Max WS	2588.90	4377.23	4396.53		4396.54	0.000014	0.98	4235.28	436.95	0.04
SteamBoatCr	Lower	4268.142	Max WS	2516.39	4377.45	4396.53		4396.54	0.000015	1.03	4010.39	437.47	0.05
SteamBoatCr	Lower	4317.378	Max WS	2442.74	4377.64	4396.53		4396.54	0.000015	1.04	3786.90	404.41	0.05
SteamBoatCr	Lower	4367.189	Max WS	2369.27	4377.41	4396.53		4396.54	0.000014	1.01	3812.69	386.19	0.05
SteamBoatCr	Lower	4410.447	Max WS	2311.63	4377.05	4396.53		4396.54	0.000011	0.92	4026.18	415.25	0.04
SteamBoatCr	Lower	4456.105	Max WS	2252.43	4376.53	4396.54		4396.54	0.000010	0.87	4171.24	420.95	0.04
SteamBoatCr	Lower	4500.090	Max WS	2207.77	4376.04	4396.54		4396.54	0.000009	0.84	4311.75	425.54	0.04
SteamBoatCr	Lower	4543.360	Max WS	2169.51	4376.45	4396.54		4396.54	0.000010	0.90	3988.19	404.22	0.04
SteamBoatCr	Lower	4585.215	Max WS	2103.48	4376.75	4396.54		4396.55	0.000011	0.91	3873.33	389.56	0.04
SteamBoatCr	Lower	4633.821	Max WS	2086.44	4376.95	4396.54		4396.55	0.000013	0.98	3507.86	363.86	0.04
SteamBoatCr	Lower	4677.849	Max WS	2049.36	4377.56	4396.54		4396.55	0.000016	1.09	3069.54	328.24	0.05

HEC-RAS Plan: 100vrexcon Profile: Max WS (Continued)

HEC-RAS Plan: 100vrexcon Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SteamBoatCr	Lower	12921.66	Max WS	1580.70	4380.50	4396.60	4385.13	4396.68	0.000115	2.33	690.74	232.57	0.11
SteamBoatCr	Lower	12995.01	Max WS	1584.77	4381.00	4396.65		4396.67	0.000028	1.14	1766.45	326.59	0.06
SteamBoatCr	Lower	13069.79	Max WS	1691.08	4381.09	4396.66		4396.67	0.000009	0.73	2601.66	325.28	0.04
SteamBoatCr	Lower	13142.79	Max WS	1826.84	4381.13	4396.66		4396.67	0.000005	0.58	3496.72	392.10	0.03
SteamBoatCr	Lower	13212.23	Max WS	1946.53	4381.22	4396.67		4396.67	0.000004	0.53	4174.14	439.26	0.02
SteamBoatCr	Lower	13286.26	Max WS	2068.05	4381.30	4396.67		4396.67	0.000004	0.52	4135.27	346.29	0.02
SteamBoatCr	Lower	13381.58	Max WS	2230.20	4381.33	4396.67		4396.67	0.000003	0.47	5096.74	435.49	0.02
SteamBoatCr	Lower	13488			Lat Struct								
SteamBoatCr	Lower	13489.18	Max WS	2403.56	4383.48	4396.66		4396.67	0.000006	0.56	4678.35	503.50	0.03
SteamBoatCr	Lower	13579.42	Max WS	2403.09	4381.72	4396.67		4396.67	0.000003	0.45	5700.12	538.34	0.02
SteamBoatCr	Upper	13630.60	Max WS	1580.45	4381.76	4396.67		4396.67	0.000003	0.42	3881.04	295.07	0.02
SteamBoatCr	Upper	13709.34	Max WS	1575.11	4381.88	4396.67		4396.67	0.000003	0.43	3919.39	309.18	0.02
SteamBoatCr	Upper	13773.89	Max WS	1570.20	4382.04	4396.67		4396.67	0.000002	0.38	4382.90	337.03	0.02
SteamBoatCr	Upper	13855.50	Max WS	1558.85	4382.07	4396.67		4396.67	0.000001	0.31	5179.57	390.74	0.01
SteamBoatCr	Upper	13956.74	Max WS	1550.65	4382.13	4396.67		4396.67	0.000002	0.40	4119.30	335.19	0.02
SteamBoatCr	Upper	14061.65	Max WS	1535.62	4382.39	4396.66		4396.67	0.000007	0.67	2441.38	204.00	0.03
SteamBoatCr	Upper	14143.03	Max WS	1505.25	4382.48	4396.66		4396.67	0.000018	0.99	1642.46	155.81	0.05
SteamBoatCr	Upper	14224			Lat Struct								
SteamBoatCr	Upper	14225.22	Max WS	1471.69	4382.55	4396.66		4396.68	0.000015	0.91	1830.71	179.35	0.05
SteamBoatCr	Upper	14333.23	Max WS	1441.55	4382.71	4396.67		4396.68	0.000007	0.65	2528.14	241.01	0.03
SteamBoatCr	Upper	14419.30	Max WS	1437.87	4382.90	4396.67		4396.68	0.000005	0.56	2871.30	274.63	0.03
SteamBoatCr	Upper	14526			Lat Struct								
SteamBoatCr	Upper	14527.17	Max WS	1436.75	4382.99	4396.67		4396.68	0.000004	0.47	3364.43	316.76	0.02
SteamBoatCr	Upper	14615.11	Max WS	1436.31	4383.15	4396.68		4396.68	0.000002	0.32	4907.43	437.39	0.02
SteamBoatCr	Upper	14702.45	Max WS	1436.13	4383.18	4396.68		4396.68	0.000001	0.19	8287.94	750.68	0.01
SteamBoatCr	Upper	14800.91	Max WS	1437.17	4383.40	4396.68		4396.68	0.000000	0.15	9676.31	896.98	0.01
SteamBoatCr	Upper	14869			Lat Struct								
SteamBoatCr	Upper	14870.51	Max WS	1423.87	4383.45	4396.68		4396.68	0.000001	0.18	8116.04	850.24	0.01
SteamBoatCr	Upper	14939.41	Max WS	1425.02	4383.59	4396.68		4396.68	0.000001	0.25	6192.92	922.62	0.01
SteamBoatCr	Upper	15136.44	Max WS	1421.74	4383.82	4396.67		4396.68	0.000006	0.49	4224.71	942.06	0.03
SteamBoatCr	Upper	15321.63	Max WS	1423.43	4384.07	4396.67		4396.68	0.000007	0.56	3618.18	872.00	0.03
SteamBoatCr	Upper	15497.00	Max WS	1422.64	4384.28	4396.68		4396.68	0.000008	0.62	3619.44	914.95	0.03
SteamBoatCr	Upper	15699			Lat Struct								
SteamBoatCr	Upper	15700.20	Max WS	1427.29	4384.60	4396.68		4396.68	0.000003	0.38	4841.07	942.22	0.02
SteamBoatCr	Upper	15823.40	Max WS	1431.13	4384.81	4396.68		4396.68	0.000003	0.40	4198.95	848.62	0.02
SteamBoatCr	Upper	16010.99	Max WS	1441.13	4384.87	4396.68		4396.68	0.000003	0.39	4641.62	926.86	0.02
SteamBoatCr	Upper	16186.10	Max WS	1451.35	4384.81	4396.68		4396.68	0.000003	0.40	4541.86	847.22	0.02
SteamBoatCr	Upper	16388.81	Max WS	1468.68	4384.70	4396.68		4396.68	0.000004	0.42	4343.41	847.64	0.02
SteamBoatCr	Upper	16529.29	Max WS	1484.05	4384.79	4396.68		4396.68	0.000003	0.38	5010.26	1043.34	0.02
SteamBoatCr	Upper	16712.94	Max WS	1509.70	4385.00	4396.68		4396.68	0.000005	0.40	4349.51	979.10	0.02
SteamBoatCr	Upper	16865.61	Max WS	1529.08	4385.20	4396.68		4396.69	0.000005	0.42	4196.51	737.17	0.02
SteamBoatCr	Upper	17000			Lat Struct								
SteamBoatCr	Upper	17009.16	Max WS	1540.07	4385.20	4396.68		4396.69	0.000005	0.44	3917.14	657.39	0.03
SteamBoatCr	Upper	17235.56	Max WS	1530.50	4385.57	4396.68		4396.69	0.000005	0.46	3851.30	598.24	0.03
SteamBoatCr	Upper	17377.60	Max WS	1523.38	4386.01	4396.68		4396.69	0.000006	0.51	3316.71	467.85	0.03
SteamBoatCr	Upper	17469.81	Max WS	1517.11	4386.28	4396.68		4396.69	0.000007	0.52	3084.29	383.46	0.03
SteamBoatCr	Upper	17582.79	Max WS	1516.95	4385.69	4396.68		4396.69	0.000006	0.51	3103.59	354.14	0.03
SteamBoatCr	Upper	17638.41	Max WS	1512.37	4385.88	4396.69		4396.69	0.000007	0.52	3032.50	346.93	0.03
SteamBoatCr	Upper	17712.09	Max WS	1510.94	4386.08	4396.69		4396.69	0.000008	0.56	2802.00	318.26	0.03
SteamBoatCr	Upper	17779.24	Max WS	1510.10	4386.28	4396.69		4396.69	0.000009	0.59	2665.05	300.68	0.03
SteamBoatCr	Upper	17845.72	Max WS	1508.75	4386.00	4396.69		4396.69	0.000009	0.61	2559.32	294.72	0.04
SteamBoatCr	Upper	17942			Lat Struct								
SteamBoatCr	Upper	17943.58	Max WS	1507.71	4385.70	4396.69		4396.69	0.000009	0.61	2586.42	287.94	0.03
SteamBoatCr	Upper	18092.36	Max WS	1505.27	4386.80	4396.69		4396.69	0.000013	0.70	2264.85	270.19	0.04
SteamBoatCr	Upper	18207.00	Max WS	1503.98	4386.79	4396.69		4396.69	0.000011	0.65	2444.04	303.56	0.04
SteamBoatCr	Upper	18312.85	Max WS	1505.32	4386.88	4396.69		4396.70	0.000010	0.60	2661.33	339.07	0.04
SteamBoatCr	Upper	18432.08	Max WS	1508.90	4386.89	4396.69		4396.70	0.000012	0.62	2603.12	357.66	0.04
SteamBoatCr	Upper	18549.50	Max WS	1509.54	4387.31	4396.69		4396.70	0.000030	1.01	2094.29	360.79	0.06
SteamBoatCr	Upper	18680.59	Max WS	1513.74	4387.30	4396.69		4396.71	0.000031	1.04	2110.57	362.83	0.06
SteamBoatCr	Upper	18801.33	Max WS	1528.54	4387.49	4396.70		4396.71	0.000029	1.00	2418.40	447.98	0.06
SteamBoatCr	Upper	18908.23	Max WS	1572.41	4387.61	4396.70		4396.71	0.000034	1.05	2390.54	482.05	0.06
SteamBoatCr	Upper	19035			Lat Struct								
SteamBoatCr	Upper	19036.19	Max WS	1632.68	4387.71	4396.70		4396.72	0.000042	1.15	2179.63	457.76	0.07
SteamBoatCr	Upper	19148.18	Max WS	1632.44	4388.51	4396.71		4396.72	0.000045	1.09	3593.99	1708.18	0.07
SteamBoatCr	Upper	19221			Culvert								
SteamBoatCr	Upper	19296.90	Max WS	1637.73	4388.60	4396.75		4396.77	0.000050	1.13	3815.57	1973.36	0.07
SteamBoatCr	Upper	19318.01	Max WS	1632.64	4388.60	4396.75		4396.77	0.000098	1.47	1665.66	1993.13	0.10
SteamBoatCr	Upper	19433.49	Max WS	1633.44	4388.90	4396.77		4396.78	0.000073	1.04	2011.91	1940.78	0.08
SteamBoatCr	Upper	19514.99	Max WS	1633.39	4389.00	4396.76		4396.80	0.000175	1.82	1323.98	1494.62	0.13
SteamBoatCr	Upper	19621.57	Max WS	1640.50	4389.17	4396.78		4396.83	0.000336	1.83	896.51	1514.09	0.17
SteamBoatCr	Upper	19728.97	Max WS	1641.72	4389.46	4396.78		4396.86	0.000269	2.33	776.01	1832.82	0.17
SteamBoatCr	Upper	19752			Bridge								
SteamBoatCr	Upper	19760											
SteamBoatCr	Upper	19772.07	Max WS	4850.98	4389.62	4398.81	4392.97	4398.81	0.000105	1.56	13803.12	2536.93	0.10
SteamBoatCr	Upper	19846.7*	Max WS	4851.54	4389.80	4398.81		4398.82	0.000118	1.54	12970.05	2541.68	0.11
SteamBoatCr	Upper	19921.4*	Max WS	4851.39	4389.98	4398.82		4398.83	0.000128	1.49	12141.22	2540.27	0.11

HEC-RAS Plan: 100vrexcon Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SteamBoatCr	Upper	19996.2*	Max WS	4852.87	4390.16	4398.83		4398.84	0.000141	1.44	11346.81	2483.01	0.11
SteamBoatCr	Upper	20070.9*	Max WS	4852.19	4390.34	4398.84		4398.85	0.000154	1.39	10557.79	2483.49	0.11
SteamBoatCr	Upper	20145.64	Max WS	4852.91	4390.52	4398.85		4398.86	0.000168	1.38	9780.95	2479.95	0.12
SteamBoatCr	Upper	20222.2*	Max WS	4852.98	4390.69	4398.86		4398.87	0.000175	1.37	9599.39	2441.47	0.12
SteamBoatCr	Upper	20298.8*	Max WS	4853.05	4390.87	4398.88		4398.88	0.000182	1.37	9425.32	2402.72	0.12
SteamBoatCr	Upper	20375.4*	Max WS	4854.46	4391.04	4398.89		4398.89	0.000190	1.37	9255.70	2363.76	0.12
SteamBoatCr	Upper	20452.01	Max WS	4855.42	4391.21	4398.90		4398.91	0.000197	1.37	9091.41	2324.23	0.12
SteamBoatCr	Upper	20522.8*	Max WS	4856.18	4391.38	4398.92		4398.92	0.000197	1.38	9029.00	2275.33	0.12
SteamBoatCr	Upper	20593.7*	Max WS	4855.82	4391.54	4398.93		4398.94	0.000197	1.39	8973.22	2231.85	0.12
SteamBoatCr	Upper	20664.66	Max WS	4855.98	4391.71	4398.95		4398.95	0.000197	1.36	8951.17	2201.21	0.12
SteamBoatCr	Upper	20733.4*	Max WS	4857.25	4391.81	4398.97		4398.97	0.000265	1.59	8154.77	2185.68	0.14
SteamBoatCr	Upper	20802.3*	Max WS	4856.66	4391.91	4398.99		4399.00	0.000317	1.76	7512.53	2047.55	0.15
SteamBoatCr	Upper	20871.17	Max WS	4858.22	4392.01	4399.02		4399.03	0.000374	1.93	7062.50	2009.74	0.17
SteamBoatCr	Upper	20952.9*	Max WS	4857.95	4392.09	4399.05		4399.06	0.000436	2.06	6648.80	1941.57	0.18
SteamBoatCr	Upper	21034.7*	Max WS	4869.16	4392.17	4399.08		4399.09	0.000500	2.17	6261.62	1866.34	0.19
SteamBoatCr	Upper	21116.5*	Max WS	4859.14	4392.24	4399.11		4399.13	0.000564	2.27	5906.84	1766.73	0.20
SteamBoatCr	Upper	21198.3*	Max WS	4860.51	4392.32	4399.15		4399.17	0.000623	2.33	5562.11	1666.94	0.21
SteamBoatCr	Upper	21280.14*	Max WS	4860.40	4392.40	4399.20		4399.22	0.000693	2.43	5318.82	1594.79	0.21
SteamBoatCr	Upper	21331.4*	Max WS	4862.31	4392.51	4399.25		4399.27	0.000840	2.76	4999.55	1569.51	0.24
SteamBoatCr	Upper	21382.8*	Max WS	4868.49	4392.63	4399.31		4399.33	0.001012	3.16	4720.95	1584.27	0.27
SteamBoatCr	Upper	21434.20	Max WS	4868.95	4392.74	4399.37		4399.41	0.001191	3.62	4461.22	1601.59	0.30
SteamBoatCr	Upper	21505.6*	Max WS	4869.43	4392.87	4399.51		4399.55	0.001838	4.11	3927.53	1637.90	0.36
SteamBoatCr	Upper	21577.12	Max WS	4873.51	4393.00	4399.70		4399.77	0.002696	5.00	3490.94	1656.14	0.42
SteamBoatCr	Upper	21635.5*	Max WS	4873.85	4393.17	4399.87		4399.94	0.002590	4.64	3548.91	1704.22	0.43
SteamBoatCr	Upper	21693.9*	Max WS	4874.69	4393.34	4400.02		4400.10	0.002338	4.59	3608.38	1738.77	0.43
SteamBoatCr	Upper	21752.38	Max WS	4874.88	4393.51	4400.15		4400.25	0.002058	4.71	3658.89	1754.56	0.42
SteamBoatCr	Upper	21829.6*	Max WS	4875.14	4393.70	4400.31		4400.40	0.002568	4.91	3522.63	1773.68	0.46
SteamBoatCr	Upper	21906.9*	Max WS	4875.64	4393.89	4400.50		4400.59	0.002899	5.20	3455.57	1769.12	0.48
SteamBoatCr	Upper	21984.17	Max WS	4876.09	4394.08	4400.71		4400.79	0.003080	5.55	3458.26	1801.75	0.48
SteamBoatCr	Upper	22057.1*	Max WS	4876.38	4394.46	4400.90		4400.97	0.002926	5.14	3583.94	1866.42	0.47
SteamBoatCr	Upper	22130.0*	Max WS	4877.83	4394.83	4401.08		4401.14	0.002640	4.71	3748.05	1902.88	0.45
SteamBoatCr	Upper	22202.9*	Max WS	4877.89	4395.21	4401.24		4401.30	0.002348	4.40	3906.04	1940.07	0.43
SteamBoatCr	Upper	22275.93	Max WS	4878.54	4395.59	4401.39		4401.44	0.002104	4.18	4077.16	1982.85	0.41
SteamBoatCr	Upper	22363.5*	Max WS	4879.04	4395.65	4401.54		4401.58	0.002105	4.20	4083.03	1995.58	0.41
SteamBoatCr	Upper	22451.1*	Max WS	4879.30	4395.71	4401.68		4401.73	0.002101	4.21	4091.46	2007.19	0.41
SteamBoatCr	Upper	22538.7*	Max WS	4879.61	4395.77	4401.83		4401.88	0.002079	4.21	4101.67	2012.75	0.40
SteamBoatCr	Upper	22626.4*	Max WS	4879.62	4395.83	4401.98		4402.02	0.002069	4.21	4113.33	2013.26	0.40
SteamBoatCr	Upper	22714.0*	Max WS	4879.02	4395.90	4402.12		4402.17	0.002069	4.23	4120.78	2018.94	0.40
SteamBoatCr	Upper	22801.6*	Max WS	4880.32	4395.96	4402.26		4402.31	0.002064	4.24	4124.89	2029.41	0.40
SteamBoatCr	Upper	22889.2*	Max WS	4881.17	4396.02	4402.40		4402.45	0.002054	4.25	4131.61	2029.72	0.40
SteamBoatCr	Upper	22976.87	Max WS	4881.46	4396.08	4402.53		4402.58	0.002040	4.25	4137.75	2026.04	0.40
Truckee	Lower	123.156	Max WS	20176.13	4366.38	4380.32	4374.54	4380.95	0.001006	6.45	3421.39	402.80	0.35
Truckee	Lower	198.520	Max WS	20176.63	4365.83	4379.86		4381.17	0.002713	9.34	2361.47	334.73	0.55
Truckee	Lower	407.494*	Max WS	20176.93	4363.71	4380.34		4381.41	0.002185	8.31	2429.14	279.02	0.50
Truckee	Lower	616.469	Max WS	20175.96	4361.59	4381.00		4381.57	0.001163	6.22	3683.37	545.87	0.36
Truckee	Lower	769.794	Max WS	20176.50	4367.64	4380.74		4381.86	0.002085	8.48	2379.34	255.37	0.49
Truckee	Lower	945.448*	Max WS	20176.76	4367.36	4380.91		4382.25	0.002452	9.31	2166.35	228.31	0.53
Truckee	Lower	1121.10*	Max WS	20177.23	4367.08	4381.06		4382.71	0.002815	10.31	1956.62	195.81	0.57
Truckee	Lower	1296.75*	Max WS	20175.64	4366.81	4381.17		4383.26	0.003369	11.59	1740.39	166.02	0.63
Truckee	Lower	1472.411	Max WS	20177.64	4366.53	4381.09		4383.95	0.004541	13.58	1485.84	138.02	0.73
Truckee	Lower	1638.40*	Max WS	20177.52	4366.79	4381.79		4384.71	0.004567	13.70	1472.83	135.42	0.73
Truckee	Lower	1804.40*	Max WS	20177.93	4367.05	4382.74		4385.41	0.003917	13.11	1539.46	133.96	0.68
Truckee	Lower	1970.402	Max WS	20178.55	4367.31	4383.61		4385.96	0.002748	12.32	1638.48	132.62	0.62
Truckee	Lower	2095.32*	Max WS	20177.90	4367.30	4384.34		4386.27	0.002199	11.15	1809.90	145.59	0.56
Truckee	Lower	2220.24*	Max WS	20177.80	4367.29	4384.88		4386.53	0.001848	10.29	1960.56	157.04	0.51
Truckee	Lower	2346.16*	Max WS	20178.45	4367.27	4385.31		4386.74	0.001594	9.60	2101.57	168.20	0.48
Truckee	Lower	2470.082	Max WS	20178.16	4367.26	4385.68		4386.93	0.001329	8.98	2285.26	207.26	0.44
Truckee	Lower	2622.13*	Max WS	20178.47	4367.26	4386.95		4387.12	0.001156	8.88	2404.84	225.53	0.41
Truckee	Lower	2774.18*	Max WS	20178.93	4367.25	4386.18		4387.28	0.001032	8.46	2531.47	253.95	0.39
Truckee	Lower	2926.24*	Max WS	20178.08	4367.25	4386.39		4387.43	0.000940	8.27	2682.74	298.27	0.38
Truckee	Lower	3079.293	Max WS	20178.72	4367.25	4386.59		4387.57	0.000863	8.08	2870.45	321.44	0.36
Truckee	Lower	3209.10*	Max WS	20179.16	4367.63	4386.62		4387.70	0.000989	8.42	2678.19	319.95	0.38
Truckee	Lower	3339.90*	Max WS	20179.52	4366.00	4386.70		4387.83	0.001093	8.63	2539.63	304.60	0.40
Truckee	Lower	3470.71*	Max WS	20178.68	4368.38	4386.83		4387.97	0.001134	8.61	2480.25	289.58	0.41
Truckee	Lower	3601.522	Max WS	20179.01	4368.76	4387.02		4388.11	0.001098	8.41	2483.09	281.09	0.40
Truckee	Lower	3727.95*	Max WS	20178.99	4368.84	4387.08		4388.26	0.001213	8.73	2365.47	267.68	0.42
Truckee	Lower	3854.38*	Max WS	20179.90	4368.93	4387.15		4388.42	0.001343	9.07	2253.36	244.91	0.44
Truckee	Lower	3980.82*	Max WS	20179.35	4369.02	4387.23		4388.60	0.001434	9.38	2164.90	207.44	0.45
Truckee	Lower	4107.256	Max WS	20179.36	4369.10	4387.35		4388.78	0.001490	9.60	2107.68	166.62	0.46
Truckee	Lower	4273.28*	Max WS	20179.84	4368.98	4387.56		4389.03	0.001478	9.73	2083.91	181.15	0.46
Truckee	Lower	4439.31*	Max WS	20179.71	4368.87	4387.77		4389.27	0.001450	9.82	2068.62	182.49	0.46
Truckee	Lower	4605.342	Max WS	20180.19	4368.75	4388.00		4389.51	0.001422	9.88	2060.73	179.26	0.45
Truckee	Lower	4731.37*	Max WS	20180.14	4368.79	4388.13		4389.70	0.001488	10.04	2038.28	177.99	0.47
Truckee	Lower	4857.39*	Max WS	20180.34	4368.83	4388.31		4389.89	0.001512	10.07	2042.48	178.42	0.47
Truckee													

HEC-RAS Plan: 100vrexcon Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl. (ft/s)	Flow Area: (sq ft)	Top Width (ft)	Froude # Chl.
Truckee	Lower	5241.07*	Max WS	20180.10	4369.49	4388.89		4390.44	0.001563	10.01	2015.88	145.43	0.47
Truckee	Lower	5372.68*	Max WS	20180.34	4370.06	4389.11		4390.65	0.001610	9.97	2024.98	149.80	0.48
Truckee	Lower	5504.302	Max WS	20180.83	4370.64	4389.36		4390.86	0.001631	9.85	2048.11	154.54	0.48
Truckee	Lower	5616.15*	Max WS	20180.45	4370.38	4389.73		4391.03	0.001326	9.14	2207.59	161.97	0.44
Truckee	Lower	5728.00*	Max WS	20180.59	4370.13	4390.05		4391.16	0.001037	8.45	2387.59	164.62	0.39
Truckee	Lower	5839.856	Max WS	20180.82	4369.87	4390.32		4391.26	0.000795	7.80	2603.92	176.18	0.35
Truckee	Lower	6033.843	Max WS	20180.88	4370.02	4390.54		4391.28	0.000573	6.97	3071.24	226.44	0.30
Truckee	Lower	6088.776	Max WS	20181.04	4370.12	4390.40		4391.32	0.000694	7.76	2692.43	182.98	0.33
Truckee	Lower	6216.105	Max WS	20181.15	4370.07	4390.32		4391.43	0.000861	8.57	2502.92	178.87	0.37
Truckee	Lower	6327.249	Max WS	20181.20	4370.07	4390.17		4391.58	0.001124	9.71	2289.60	172.85	0.42
Truckee	Lower	6489.055	Max WS	20181.16	4370.16	4390.11		4391.80	0.001349	10.61	2097.38	165.50	0.46
Truckee	Lower	6619.987	Max WS	20181.29	4370.08	4390.38		4391.95	0.001232	10.17	2133.23	164.57	0.44
Truckee	Lower	6682.363	Max WS	20181.39	4370.05	4390.45		4392.04	0.001268	10.30	2196.66	191.40	0.44
Truckee	Lower	6735.577	Max WS	20181.25	4370.10	4390.64		4392.09	0.001173	9.82	2262.20	189.00	0.43
Truckee	Lower	6812.174	Max WS	20181.45	4370.05	4390.69		4392.23	0.001212	10.34	2376.97	213.09	0.43
Truckee	Lower	6887.051	Max WS	20181.21	4370.20	4391.16		4392.21	0.000755	8.41	2678.11	191.04	0.35
Truckee	Lower	6976.285	Max WS	20181.44	4370.20	4391.08		4392.29	0.000855	8.94	2441.63	166.90	0.37
Truckee	Lower	7131.793	Max WS	20181.37	4370.20	4390.86		4392.47	0.001538	10.19	1980.88	135.55	0.47
Truckee	Lower	7258.546	Max WS	20181.55	4370.21	4391.80		4392.58	0.000638	7.07	2876.47	193.92	0.31
Truckee	Lower	7406.445	Max WS	20181.37	4370.23	4392.02		4392.66	0.000540	6.43	3371.04	270.05	0.27
Truckee	Lower	7511.357	Max WS	20181.72	4370.24	4392.04		4392.73	0.000566	6.71	3653.99	366.41	0.28
Truckee	Lower	7664.775	Max WS	20182.19	4370.25	4392.07		4392.84	0.000642	7.09	3523.06	364.71	0.30
Truckee	Lower	7820.225	Max WS	20181.36	4370.26	4392.32		4392.90	0.000608	6.16	3915.16	380.85	0.25
Truckee	Lower	7961.973	Max WS	20181.73	4370.27	4392.35		4393.01	0.000728	6.59	3807.54	368.82	0.27
Truckee	Lower	8090.012	Max WS	20182.08	4370.29	4392.45		4393.10	0.000699	6.56	4112.66	452.34	0.27
Truckee	Lower	8228.509	Max WS	20182.54	4370.29	4392.50		4393.25	0.000845	7.08	4260.14	529.80	0.29
Truckee	Lower	8388.340	Max WS	20183.20	4370.33	4392.64		4393.39	0.000824	7.18	4603.22	611.08	0.30
Truckee	Lower	8490.330	Max WS	20182.60	4370.40	4392.76		4393.43	0.000730	6.74	4764.29	625.50	0.28
Truckee	Lower	8617.348	Max WS	20183.48	4370.50	4392.92		4393.48	0.000629	6.11	4981.23	664.48	0.26
Truckee	Lower	8745.655	Max WS	20183.53	4370.61	4392.99		4393.56	0.000615	6.19	4514.30	691.94	0.26
Truckee	Lower	8898.097	Max WS	20184.42	4370.74	4393.09		4393.68	0.000663	6.45	4222.81	712.62	0.27
Truckee	Lower	9064.256	Max WS	20185.08	4370.88	4393.26		4393.77	0.000620	6.19	4499.24	668.27	0.26
Truckee	Lower	9124.953	Max WS	20185.31	4370.94	4393.25		4393.82	0.000642	6.39	4298.42	684.41	0.26
Truckee	Lower	9234.001	Max WS	20185.80	4371.04	4393.10		4393.93	0.000868	7.38	3224.45	410.76	0.30
Truckee	Lower	9385.354	Max WS	20185.73	4371.18	4393.36		4394.02	0.000706	6.66	4409.38	475.47	0.27
Truckee	Lower	9584.751	Max WS	20185.91	4371.38	4393.48		4394.18	0.000759	6.90	4316.10	544.45	0.28
Truckee	Lower	9758	Lat Struct										
Truckee	Lower	9759.033	Max WS	20186.47	4371.68	4393.63		4394.33	0.000892	6.95	4161.27	470.70	0.30
Truckee	Lower	9901.465	Max WS	20187.07	4371.55	4393.88		4394.35	0.000485	6.64	4610.11	433.70	0.23
Truckee	Lower	10054.85	Max WS	20187.18	4371.41	4393.95		4394.43	0.000482	5.62	4374.81	371.42	0.23
Truckee	Lower	10237.23	Max WS	20187.45	4371.18	4394.02		4394.51	0.000482	5.63	3926.15	299.24	0.23
Truckee	Lower	10411.34	Max WS	20186.65	4371.06	4394.03		4394.63	0.000590	6.29	4057.86	331.08	0.25
Truckee	Lower	10562.53	Max WS	20188.07	4371.23	4394.16		4394.70	0.000528	5.92	3997.04	308.35	0.24
Truckee	Lower	10736.99	Max WS	20188.17	4371.28	4394.19		4394.81	0.000677	6.34	3335.91	226.77	0.27
Truckee	Lower	10929.09	Max WS	20187.00	4371.10	4394.48		4394.91	0.000451	5.29	4063.26	296.71	0.22
Truckee	Lower	11083.70	Max WS	20188.13	4371.07	4394.61		4394.96	0.000324	4.84	4558.40	299.27	0.19
Truckee	Lower	11233	Lat Struct										
Truckee	Lower	11234.17	Max WS	20188.21	4371.29	4394.45		4395.08	0.000670	6.64	3626.48	296.58	0.27
Truckee	Lower	11383.49	Max WS	20188.59	4371.25	4394.56		4395.18	0.000640	6.55	3677.76	287.61	0.26
Truckee	Lower	11496.09	Max WS	20188.87	4371.13	4394.67		4395.24	0.000601	6.26	3673.05	240.42	0.26
Truckee	Lower	11617.76	Max WS	20188.84	4371.14	4394.63		4395.32	0.000715	6.77	3210.87	209.64	0.27
Truckee	Lower	11704.35	Max WS	20188.68	4371.18	4394.65		4395.38	0.000776	6.93	3074.40	200.85	0.29
Truckee	Lower	11819.83	Max WS	20187.30	4371.16	4394.71		4395.48	0.000823	7.09	2974.85	194.17	0.29
Truckee	Lower	11921.75	Max WS	20188.96	4371.16	4394.84		4395.55	0.000725	6.80	3096.03	192.62	0.28
Truckee	Lower	12052.52	Max WS	20189.63	4371.17	4394.94		4395.65	0.000730	6.76	3104.79	195.54	0.27
Truckee	Lower	12194.80	Max WS	20189.90	4371.00	4395.26		4395.72	0.000424	5.47	3783.15	198.65	0.21
Truckee	Lower	12289	Lat Struct										
Truckee	Lower	12290.45	Max WS	20189.47	4369.75	4395.33		4395.76	0.000384	5.28	3930.50	204.07	0.20
Truckee	Lower	12411.23	Max WS	20189.69	4370.97	4395.32		4395.81	0.000453	5.64	3718.71	209.12	0.22
Truckee	Lower	12558	Lat Struct										
Truckee	Lower	12559.40	Max WS	20189.93	4370.72	4395.48		4395.87	0.000363	5.00	4157.22	281.19	0.20
Truckee	Lower	12674.60	Max WS	20189.85	4371.11	4395.63		4395.90	0.000236	4.18	4958.48	297.34	0.17
Truckee	Middle	12793.06	Max WS	14331.66	4371.02	4395.63		4395.84	0.000161	3.79	4311.46	284.67	0.16
Truckee	Middle	12883.59	Max WS	13301.38	4371.08	4395.66		4395.88	0.000182	3.98	3899.50	269.17	0.16
Truckee	Middle	13012.33	Max WS	12252.95	4371.32	4395.62		4395.96	0.000276	4.71	2786.78	193.50	0.20
Truckee	Middle	13144.50	Max WS	11264.84	4371.56	4395.72		4396.05	0.000293	4.62	2652.91	184.75	0.20
Truckee	Middle	13260	Lat Struct										
Truckee	Middle	13261	Lat Struct										
Truckee	Middle	13261.42	Max WS	10503.98	4371.78	4395.86		4396.12	0.000243	4.07	2600.56	174.26	0.18
Truckee	Middle	13313.60	Max WS	10503.18	4371.86	4395.91		4396.13	0.000177	3.76	2863.65	180.18	0.16
Truckee	Upper	13390.04	Max WS	8887.37	4372.00	4395.91		4396.05	0.000114	3.02	2992.24	184.08	0.13
Truckee	Upper	13518.64	Max WS	8295.06	4372.24	4395.94		4396.08	0.000118	3.05	2813.78	183.77	0.13
Truckee	Upper	13690.82	Max WS	7759.67	4372.55	4395.99		4396.12	0.000140	2.95	2653.15	187.81	0.14
Truckee	Upper	13849.40	Max WS	7495.37	4372.75	4396.03		4396.15	0.000128	2.88	2618.69	180.16	0.13
Truckee	Upper	14023.34	Max WS	7058.81	4372.81	4396.06		4396.19	0.000123	2.85	2499.13	168.85	0.13
Truckee	Upper	14202.16	Max WS	7007.54	4372.87	4396.11		4396.21	0.000099	2.55	2751.99	182.74	0.11

HEC-RAS Plan: 100vrexcon Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vei Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	14346.78	Max WS	7096.32	4372.92	4396.11		4396.22	0.000098	2.75	2666.71	179.66	0.12
Truckee	Upper	14544.98	Max WS	7142.56	4372.98	4396.12		4396.24	0.000109	2.86	2575.55	187.79	0.12
Truckee	Upper	14767.08	Max WS	7390.78	4373.05	4396.12		4396.26	0.000121	2.98	2531.90	168.85	0.13
Truckee	Upper	15056			Lat Struct								
Truckee	Upper	15057.88	Max WS	7952.70	4373.13	4396.14		4396.28	0.000113	2.98	2830.87	219.16	0.13
Truckee	Upper	15300.51	Max WS	7908.88	4373.19	4396.17		4396.31	0.000121	2.99	2738.95	197.03	0.13
Truckee	Upper	15528.35	Max WS	7456.43	4373.25	4396.20		4396.35	0.000126	3.07	2605.82	194.53	0.13
Truckee	Upper	15768			Lat Struct								
Truckee	Upper	15769.99	Max WS	7395.50	4373.08	4396.23		4396.38	0.000147	3.11	2382.75	160.98	0.14
Truckee	Upper	15920			Lat Struct								
Truckee	Upper	15921.59	Max WS	6835.04	4372.96	4396.32		4396.42	0.000098	2.63	2714.36	191.18	0.12
Truckee	Upper	16122.58	Max WS	5933.90	4372.87	4396.36		4396.47	0.000094	2.63	2329.74	157.21	0.11
Truckee	Upper	16308.12	Max WS	5512.11	4372.71	4396.43		4396.49	0.000054	2.05	2746.05	171.74	0.09
Truckee	Upper	16452.05	Max WS	5483.76	4372.50	4396.42		4396.50	0.000068	2.25	2500.33	163.95	0.10
Truckee	Upper	16620.83	Max WS	5445.63	4372.97	4396.43		4396.52	0.000099	2.42	2286.74	182.86	0.11
Truckee	Upper	16794.88	Max WS	5460.21	4373.41	4396.46		4396.53	0.000069	2.12	2592.95	179.16	0.10
Truckee	Upper	17030.21	Max WS	5719.17	4373.79	4396.48		4396.54	0.000052	2.04	2864.51	180.95	0.09
Truckee	Upper	17231			Lat Struct								
Truckee	Upper	17232.01	Max WS	6046.60	4373.87	4396.47		4396.54	0.000061	2.21	2951.07	238.27	0.09
Truckee	Upper	17433.06	Max WS	6192.53	4373.91	4396.47		4396.56	0.000072	2.39	2815.53	230.73	0.10
Truckee	Upper	17594			Lat Struct								
Truckee	Upper	17595.00	Max WS	6494.91	4373.92	4396.49		4396.56	0.000053	2.12	3189.03	213.35	0.09
Truckee	Upper	17774.81	Max WS	6724.42	4373.90	4396.48		4396.57	0.000077	2.42	3059.20	277.17	0.10
Truckee	Upper	17966.96	Max WS	6958.74	4373.85	4396.48		4396.57	0.000074	2.44	2960.27	205.41	0.10
Truckee	Upper	18117.31	Max WS	7026.48	4373.82	4396.47		4396.59	0.000099	2.68	2690.26	194.44	0.12
Truckee	Upper	18285			Lat Struct								
Truckee	Upper	18286.70	Max WS	7219.15	4374.02	4396.50		4396.60	0.000082	2.55	3038.23	245.14	0.11
Truckee	Upper	18488.74	Max WS	7490.16	4374.29	4396.51		4396.60	0.000076	2.41	3274.65	261.23	0.10
Truckee	Upper	18680.00	Max WS	7761.18	4374.58	4396.50		4396.62	0.000113	2.82	2883.07	242.21	0.12
Truckee	Upper	18915.19	Max WS	8212.05	4374.90	4396.49		4396.63	0.000155	3.06	2756.74	219.03	0.14
Truckee	Upper	19172			Lat Struct								
Truckee	Upper	19173.34	Max WS	8701.85	4375.30	4396.50		4396.65	0.000146	3.14	2830.41	216.22	0.14
Truckee	Upper	19428.21	Max WS	8878.49	4375.70	4396.50		4396.69	0.000204	3.63	2573.90	221.14	0.16
Truckee	Upper	19546.39	Max WS	9095.10	4376.06	4396.51		4396.73	0.000229	3.79	2433.13	183.95	0.18
Truckee	Upper	19800			Lat Struct								
Truckee	Upper	19871.73	Max WS	9149.73	4376.43	4396.53		4396.80	0.000330	4.22	2463.85	298.67	0.21
Truckee	Upper	20102.60	Max WS	9000.44	4376.84	4396.60		4396.89	0.000349	4.38	2355.87	283.08	0.21
Truckee	Upper	20349.62	Max WS	9187.60	4377.29	4396.62		4396.99	0.000470	5.05	2184.29	286.86	0.25
Truckee	Upper	20652.04	Max WS	10184.80	4377.85	4396.75		4397.04	0.000297	4.43	2882.87	269.20	0.20
Truckee	Upper	20878			Lat Struct								
Truckee	Upper	20879.99	Max WS	10832.50	4378.31	4396.64		4397.12	0.000546	5.70	2210.84	242.01	0.27
Truckee	Upper	21090			Lat Struct								
Truckee	Upper	21091.93	Max WS	11319.92	4378.69	4396.81		4397.19	0.000505	5.04	2465.38	277.97	0.25
Truckee	Upper	21263.33	Max WS	11443.28	4379.05	4396.94		4397.26	0.000408	4.59	2822.40	334.09	0.23
Truckee	Upper	21437			Lat Struct								
Truckee	Upper	21438.30	Max WS	11451.44	4379.43	4396.97		4397.36	0.000617	5.12	2675.67	441.41	0.28
Truckee	Upper	21650.04	Max WS	11504.35	4379.87	4397.10		4397.47	0.000460	4.94	2648.19	425.93	0.26
Truckee	Upper	21817.75	Max WS	11596.59	4380.22	4397.23		4397.53	0.000458	4.37	2670.40	268.60	0.24
Truckee	Upper	21974			Lat Struct								
Truckee	Upper	21975.48	Max WS	12345.57	4380.50	4397.17		4397.56	0.000483	4.99	2480.62	211.39	0.25
Truckee	Upper	22100			Lat Struct								
Truckee	Upper	22176.73	Max WS	12327.34	4380.68	4397.09		4397.70	0.000853	6.28	1967.56	178.10	0.33
Truckee	Upper	22334			Lat Struct								
Truckee	Upper	22335.52	Max WS	12186.63	4381.00	4397.07		4397.89	0.001282	7.30	1751.59	220.51	0.40
Truckee	Upper	22503.45	Max WS	12144.90	4381.30	4397.39		4398.08	0.000994	6.71	1811.19	160.17	0.35
Truckee	Upper	22665			Lat Struct								
Truckee	Upper	22687			Lat Struct								
Truckee	Upper	22688.55	Max WS	12277.40	4381.60	4397.85		4398.23	0.000550	4.92	2523.15	252.67	0.26
Truckee	Upper	22944.66	Max WS	12347.64	4382.22	4397.90		4398.40	0.000612	5.95	2480.36	236.22	0.29
Truckee	Upper	23112.71	Max WS	12432.88	4382.48	4398.06		4398.49	0.000790	5.31	2350.80	262.49	0.31
Truckee	Upper	23262			Lat Struct								
Truckee	Upper	23263.74	Max WS	12476.86	4382.79	4397.98		4398.64	0.001160	6.54	1915.92	206.86	0.38
Truckee	Upper	23433.78	Max WS	12539.20	4383.09	4397.96		4398.86	0.001487	7.60	1651.49	174.26	0.42
Truckee	Upper	23608			Lat Struct								
Truckee	Upper	23609.90	Max WS	12922.15	4383.51	4398.58		4399.07	0.000699	5.60	2368.46	260.10	0.30
Truckee	Upper	23764.74	Max WS	13474.20	4383.78	4398.58		4399.14	0.000680	6.05	2343.80	221.57	0.30
Truckee	Upper	23902			Lat Struct								
Truckee	Upper	23903.66	Max WS	14203.84	4384.11	4398.49		4399.19	0.000881	6.77	2229.59	243.50	0.34
Truckee	Upper	24094.85	Max WS	14147.68	4384.41	4398.19		4399.37	0.001637	8.75	1664.85	195.57	0.45
Truckee	Upper	24231			Lat Struct								
Truckee	Upper	24232.12	Max WS	14877.77	4384.69	4398.45		4399.63	0.001660	8.78	1831.40	229.37	0.46
Truckee	Upper	24273.14	Max WS	15123.84	4384.99	4398.81		4399.82	0.001860	8.08	1898.75	241.23	0.47
Truckee	Upper	24558.96	Max WS	15671.00	4385.29	4399.22		4400.07	0.001160	7.66	2463.96	315.67	0.39
Truckee	Upper	24749.13	Max WS	15865.50	4385.68	4399.63		4400.18	0.000663	6.05	2999.27	337.32	0.30
Truckee	Upper	24897.16	Max WS	15922.14	4385.87	4399.63		4400.30	0.000848	6.78	2703.05	284.90	0.34
Truckee	Upper	25043.05	Max WS	15939.03	4386.20	4399.08		4400.69	0.002370	10.41	1775.10	247.68	0.54

HEC-RAS Plan: 100vrexcon Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch. El. (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	25319			Lat Struct								
Truckee	Upper	25320.47	Max WS	15982.20	4386.70	4400.27		4401.08	0.001251	7.23	2212.01	213.22	0.40
Truckee	Upper	25557.57	Max WS	15982.98	4387.21	4400.52		4401.38	0.001298	7.48	2144.69	209.10	0.41
Truckee	Upper	25685.79	Max WS	15978.63	4387.39	4400.30		4401.61	0.002158	9.21	1742.75	186.83	0.52
Truckee	Upper	25785			Lat Struct								
Truckee	Upper	25786			Lat Struct								
Truckee	Upper	25787.10	Max WS	15984.14	4387.64	4400.33		4401.88	0.003160	10.01	1596.69	190.25	0.61
Truckee	Upper	25800			Bridge								
Truckee	Upper	25935.87	Max WS	15984.29	4388.73	4400.85	4397.72	4402.49	0.002852	10.32	1606.08	212.26	0.59
Truckee	Upper	26056.23	Max WS	15372.52	4388.90	4400.74		4403.09	0.004369	12.29	1253.31	147.85	0.72
Truckee	Upper	26167.21	Max WS	15088.28	4389.06	4401.69		4403.58	0.003096	11.04	1385.71	152.64	0.61
Truckee	Upper	26319.22	Max WS	14912.31	4388.73	4402.61		4404.00	0.002097	9.51	1673.89	223.09	0.51
Truckee	Upper	26464			Lat Struct								
Truckee	Upper	26465.88	Max WS	14703.91	4388.66	4402.60		4404.44	0.003158	10.91	1392.69	200.24	0.62
Truckee	Upper	26588.41	Max WS	14603.19	4388.96	4403.40		4404.79	0.002542	9.49	1554.02	197.24	0.55
Truckee	Upper	26711.46	Max WS	14722.17	4388.03	4403.77		4405.03	0.001734	9.01	1643.22	159.10	0.47
Truckee	Upper	26853			Lat Struct								
Truckee	Upper	26854.46	Max WS	14841.79	4389.25	4403.58		4405.36	0.003074	10.71	1392.65	148.68	0.61
Truckee	Upper	27010			Lat Struct								
Truckee	Upper	27011.59	Max WS	15019.32	4390.45	4404.63		4405.69	0.001626	8.77	2167.04	273.82	0.45
Truckee	Upper	27150.44	Max WS	15509.38	4390.74	4404.92		4405.80	0.001330	7.87	2260.54	234.33	0.41
Truckee	Upper	27281			Lat Struct								
Truckee	Upper	27282.45	Max WS	15731.96	4390.83	4405.04		4405.92	0.001317	7.56	2080.11	192.24	0.41
Truckee	Upper	27427.44	Max WS	15827.09	4390.31	4405.15		4406.12	0.001540	7.89	2007.77	197.53	0.43
Truckee	Upper	27571.37	Max WS	15844.55	4391.53	4404.42		4406.62	0.003693	12.19	1436.31	165.07	0.67
Truckee	Upper	27678			Lat Struct								
Truckee	Upper	27679.10	Max WS	15844.38	4391.80	4404.30		4407.13	0.004941	13.76	1261.15	153.72	0.77
Truckee	Upper	27840.41	Max WS	15847.59	4391.73	4406.04		4407.59	0.002485	10.30	1741.06	204.64	0.55
Truckee	Upper	27953.75	Max WS	15909.99	4391.89	4406.50		4407.80	0.001984	9.38	1873.41	206.64	0.50
Truckee	Upper	28078			Lat Struct								
Truckee	Upper	28079.65	Max WS	16007.29	4392.21	4406.71		4408.02	0.002120	9.18	1762.31	199.35	0.51
Truckee	Upper	28333			Lat Struct								
Truckee	Upper	28334.18	Max WS	16323.08	4392.92	4407.28		4408.45	0.001695	8.71	1884.22	179.59	0.46
Truckee	Upper	28560			Lat Struct								
Truckee	Upper	28561.76	Max WS	16041.88	4393.85	4407.80		4408.86	0.001529	8.23	1948.71	181.61	0.44
Truckee	Upper	28777.22	Max WS	15907.78	4394.54	4408.22		4409.19	0.001406	7.89	2018.17	188.18	0.42
Truckee	Upper	28986.09	Max WS	15613.83	4394.76	4408.41		4409.59	0.001893	8.76	1864.98	216.13	0.49
Truckee	Upper	29163			Lat Struct								
Truckee	Upper	29164.29	Max WS	15870.36	4395.37	4408.75		4409.87	0.001645	8.56	1996.19	241.70	0.46
Truckee	Upper	29422.51	Max WS	16805.52	4395.58	4408.80		4410.34	0.003123	9.97	1697.76	208.57	0.61
Truckee	Upper	29634			Lat Struct								
Truckee	Upper	29635.26	Max WS	17202.64	4396.01	4409.22		4410.91	0.002751	10.53	1743.51	222.18	0.59
Truckee	Upper	29931.50	Max WS	18097.10	4396.44	4410.06		4411.48	0.002252	9.60	1958.42	227.98	0.53
Truckee	Upper	30210			Lat Struct								
Truckee	Upper	30211.71	Max WS	18388.78	4397.40	4410.52		4412.40	0.003723	11.65	1970.68	296.32	0.67
Truckee	Upper	30509.03	Max WS	18389.13	4397.79	4411.63		4413.32	0.002913	10.86	1974.42	245.44	0.60
Truckee	Upper	30789			Lat Struct								
Truckee	Upper	30789.09	Max WS	18414.69	4397.85	4412.50		4414.13	0.003410	10.26	1794.91	216.58	0.63
Truckee	Upper	31037.96	Max WS	18670.71	4398.21	4413.73		4414.71	0.001586	7.91	2366.69	245.25	0.44
Truckee	Upper	31273.71	Max WS	18983.82	4400.22	4413.91		4415.07	0.001617	8.73	2313.37	250.51	0.46
Truckee	Upper	31522			Lat Struct								
Truckee	Upper	31523.22	Max WS	18988.69	4401.01	4414.30		4415.49	0.001770	8.86	2266.20	261.24	0.48
Truckee	Upper	31795.06	Max WS	19033.10	4401.29	4414.42		4416.11	0.002750	10.49	1867.53	221.85	0.58
Truckee	Upper	31963.03	Max WS	19033.55	4401.58	4414.75		4416.64	0.003468	11.03	1755.07	219.63	0.65
Truckee	Upper	32100.13	Max WS	19033.57	4401.78	4415.16		4417.12	0.003399	11.28	1749.73	240.46	0.65
Truckee	Upper	32219			Lat Struct								
Truckee	Upper	32220			Lat Struct								
Truckee	Upper	32220.09	Max WS	19066.63	4401.83	4415.92		4417.43	0.002265	9.89	1970.77	216.16	0.53
Truckee	Upper	32300			Bridge								
Truckee	Upper	32323.85	Max WS	19066.63	4403.13	4416.30	4412.34	4417.83	0.002256	9.96	1946.48	210.60	0.53
Truckee	Upper	32391.38	Max WS	19066.21	4403.64	4415.81		4418.06	0.003595	12.06	1626.94	189.56	0.67
Truckee	Upper	32460.36	Max WS	18908.41	4403.96	4416.67		4418.27	0.002435	10.23	1944.06	233.18	0.56
Truckee	Upper	32566.20	Max WS	18726.20	4404.43	4417.33		4418.50	0.001773	8.89	2348.60	288.84	0.48
Truckee	Upper	32707.99	Max WS	18490.50	4405.04	4417.65		4418.80	0.001946	8.91	2446.13	360.83	0.50
Truckee	Upper	32851.30	Max WS	18366.37	4405.68	4417.69		4419.23	0.002959	10.22	2148.69	414.59	0.60
Truckee	Upper	32983			Lat Struct								
Truckee	Upper	32984.21	Max WS	18299.27	4406.26	4418.04		4419.65	0.003420	10.33	2022.24	435.92	0.64
Truckee	Upper	33141.24	Max WS	18369.77	4406.88	4419.12		4419.91	0.001399	7.49	3048.33	455.53	0.42
Truckee	Upper	33318.83	Max WS	18422.89	4407.51	4419.30		4420.20	0.001894	7.86	2739.28	438.20	0.48
Truckee	Upper	33477.26	Max WS	18422.74	4408.00	4419.07		4420.60	0.002855	9.93	1855.28	207.52	0.59
Truckee	Upper	33642			Lat Struct								
Truckee	Upper	33642.99	Max WS	18423.55	4409.14	4419.68		4421.06	0.002747	9.44	1990.74	459.08	0.57
Truckee	Upper	33812.80	Max WS	18424.30	4409.29	4419.83		4421.64	0.003762	10.81	1797.97	351.75	0.66
Truckee	Upper	33931			Lat Struct								
Truckee	Upper	33932.07	Max WS	18428.05	4409.08	4420.59		4422.03	0.003087	9.64	1949.74	262.61	0.60
Truckee	Upper	34046.91	Max WS	18431.01	4409.39	4420.33		4422.51	0.005129	11.85	1561.74	443.16	0.76

HEC-RAS Plan: 100vrexon Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev. (ft)	Crit W.S. (ft)	E.G. Elev. (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	34236.54	Max WS	18461.32	4409.87	4421.69	4419.09	4423.30	0.003522	10.24	1972.59	704.46	0.64
Truckee	Upper	34453			Lat Struct								
Truckee	Upper	34454.76	Max WS	18661.21	4410.63	4422.21		4424.21	0.003772	11.78	2165.70	801.66	0.68
Truckee	Upper	34676.91	Max WS	19046.87	4410.29	4422.68		4424.97	0.004353	12.15	1567.81	568.71	0.72
Truckee	Upper	34935.32	Max WS	19048.20	4410.80	4423.46		4426.29	0.005800	13.51	1410.03	508.25	0.82
Truckee	Upper	35260			Lat Struct								
Truckee	Upper	35261.04	Max WS	19052.21	4411.25	4425.85		4427.65	0.002780	10.80	1887.12	715.31	0.59
Truckee	Upper	35351			Lat Struct								
Truckee	Upper	35352.36	Max WS	19050.54	4411.42	4426.06		4427.90	0.002522	11.01	1877.78	211.97	0.57
Truckee	Upper	35400			Bridge								
Truckee	Upper	35486.25	Max WS	19052.09	4411.57	4428.02	4422.21	4429.12	0.001294	8.68	2569.06	618.54	0.42
Truckee	Upper	35606.06	Max WS	19050.95	4411.78	4428.16		4429.23	0.001206	8.30	2312.57	576.16	0.40
Truckee	Upper	35730.91	Max WS	19051.55	4412.07	4428.14		4429.41	0.001687	9.04	2114.98	534.05	0.47
Truckee	Upper	35849			Lat Struct								
Truckee	Upper	35850			Lat Struct								
Truckee	Upper	35851.46	Max WS	19052.39	4413.29	4428.39		4429.62	0.001683	8.93	2190.50	568.11	0.47
Truckee	Upper	35919			Ini Struct								
Truckee	Upper	36059.71	Max WS	19051.00	4417.93	4431.30	4427.48	4432.35	0.001749	8.72	3037.54	578.20	0.47
Truckee	Upper	36209.76	Max WS	19076.35	4418.30	4430.67	4428.58	4433.01	0.003900	12.37	1756.00	477.09	0.69
Truckee	Upper	36391.32	Max WS	19226.61	4418.31	4432.06		4433.42	0.002285	9.92	2630.24	466.29	0.54
Truckee	Upper	36568			Lat Struct								
Truckee	Upper	36569.41	Max WS	19533.48	4418.08	4432.09		4433.92	0.003100	11.13	2116.23	377.99	0.62
Truckee	Upper	36725.76	Max WS	19699.14	4418.04	4432.67		4434.34	0.002990	10.69	2275.41	453.70	0.60
Truckee	Upper	36929.19	Max WS	20190.86	4417.88	4433.57		4434.73	0.002114	9.41	3182.88	628.90	0.51
Truckee	Upper	37156			Lat Struct								
Truckee	Upper	37157			Lat Struct								
Truckee	Upper	37157.78	Max WS	20657.12	4418.82	4433.38		4435.65	0.005485	12.09	1708.34	543.23	0.78
Truckee	Upper	37430.40	Max WS	20658.91	4420.25	4435.42		4436.83	0.003513	9.59	2371.51	812.22	0.63
Truckee	Upper	37723			Lat Struct								
Truckee	Upper	37724.79	Max WS	20716.29	4421.93	4434.74	4434.49	4438.78	0.007904	16.13	1285.38	348.97	0.96
Truckee	Upper	37946.04	Max WS	20725.69	4422.77	4438.07		4439.62	0.002382	10.11	2353.71	541.28	0.55
Truckee	Upper	38183			Lat Struct								
Truckee	Upper	38184.85	Max WS	20726.69	4423.49	4438.60		4440.11	0.002109	9.84	2105.89	189.02	0.52
Truckee	Upper	38371.89	Max WS	20727.20	4424.00	4439.55		4440.42	0.001321	7.80	3215.96	371.46	0.41
Truckee	Upper	38400			Bridge								
Truckee	Upper	38526	Max WS	20727.84	4424.10	4439.95	4435.41	4440.99	0.001607	8.47	3149.57	467.51	0.45
Truckee	Upper	38546.68	Max WS	20727.94	4425.00	4440.09		4440.97	0.001780	7.55	2826.21	459.19	0.46
Truckee	Upper	38790			Ini Struct								
Truckee	Upper	38793.61	Max WS	20726.57	4431.28	4444.16	4441.46	4445.20	0.002015	8.59	3859.40	1118.72	0.52
Truckee	Upper	38891.88	Max WS	20727.12	4431.47	4444.29		4445.44	0.002208	9.01	3582.05	1033.18	0.54
Truckee	Upper	39038.50	Max WS	20728.14	4431.07	4444.41		4446.05	0.002669	10.91	3410.64	954.59	0.61
Truckee	Upper	39325.14	Max WS	20728.28	4431.41	4445.18		4446.57	0.002210	9.93	3412.79	810.67	0.56
Truckee	Upper	39567.24	Max WS	20728.76	4431.68	4445.52		4447.09	0.002317	10.17	2669.37	921.11	0.57
Truckee	Upper	39763.07	Max WS	20729.71	4431.91	4446.00		4447.50	0.002021	10.06	2632.69	550.18	0.54
Truckee	Upper	39956.88	Max WS	20730.70	4432.13	4446.27		4447.94	0.002239	10.55	2567.57	691.85	0.56
Truckee	Upper	40145.43	Max WS	20731.60	4432.42	4446.87		4448.44	0.002034	10.71	2826.57	776.39	0.55
Truckee	Upper	40324.24	Max WS	20732.16	4432.83	4446.62	4444.96	4449.01	0.003947	12.54	1904.80	565.21	0.73
Truckee	Upper	40471.90	Max WS	20730.96	4433.17	4447.34	4445.29	4449.50	0.003543	11.86	1949.08	589.39	0.69
Truckee	Upper	40652.89	Max WS	20733.15	4433.56	4448.34		4450.00	0.002639	10.53	2347.21	522.60	0.60
Truckee	Upper	40837.92	Max WS	20733.21	4433.92	4449.00		4450.38	0.002087	9.51	2511.24	434.75	0.54
Truckee	Upper	41084.64	Max WS	20732.34	4434.37	4449.31		4450.98	0.002819	10.35	2003.01	196.66	0.57
Truckee	Upper	41236.61	Max WS	20732.08	4434.25	4449.65		4451.40	0.002781	10.62	1952.52	176.59	0.56
Truckee	Upper	41361.23	Max WS	20733.43	4433.96	4449.94		4451.72	0.002329	10.70	1936.84	176.84	0.57
Truckee	Upper	41521.41	Max WS	20733.11	4433.97	4449.78		4452.16	0.003054	12.38	1674.28	149.32	0.65
Truckee	Upper	41611.80	Max WS	20732.37	4434.02	4450.85		4452.37	0.001833	9.87	2101.32	181.21	0.51

Appendix C

Revised Existing Conditions Model

HEC-RAS Plan: ex w marina Profile: Max WS

River	Reach	River Sta	Profile	Q Total: (cfs)	Min Ch El. (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
NTuckerDrain	Tributary	107.382	Max WS	1625.50	4375.48	4395.95		4395.99	0.000068	1.63	1079.42	104.84	0.08
NTuckerDrain	Tributary	178.328	Max WS	1296.24	4375.60	4395.98		4396.01	0.000051	1.30	1049.17	111.11	0.07
NTuckerDrain	Tributary	251.492	Max WS	1010.82	4375.80	4396.01		4396.02	0.000030	1.00	1064.11	108.32	0.06
NTuckerDrain	Tributary	319.994	Max WS	799.54	4375.90	4396.02		4396.03	0.000015	0.71	1169.92	122.90	0.04
NTuckerDrain	Tributary	375.106	Max WS	664.45	4375.99	4396.03		4396.03	0.000011	0.60	1166.67	118.13	0.03
NTuckerDrain	Tributary	434.091	Max WS	485.63	4376.15	4396.03		4396.03	0.000006	0.46	1104.27	111.97	0.02
NTuckerDrain	Tributary	523			Lat Struct								
NTuckerDrain	Tributary	523.133	Max WS	185.57	4376.26	4396.04		4396.04	0.000001	0.17	1071.74	103.82	0.01
NTuckerDrain	Tributary	539			Lat Struct								
NTuckerDrain	Tributary	540.623	Max WS	183.92	4376.97	4396.04		4396.04	0.000001	0.17	1072.98	113.80	0.01
NTuckerDrain	Tributary	590			Culvert								
NTuckerDrain	Tributary	656.084	Max WS	183.92	4376.98	4396.11		4396.11	0.000001	0.18	1004.97	92.55	0.01
NTuckerDrain	Tributary	723.402	Max WS	172.74	4377.02	4396.11		4396.11	0.000001	0.19	910.04	104.18	0.01
NTuckerDrain	Tributary	812.551	Max WS	160.00	4377.22	4396.11		4396.11	0.000001	0.19	906.76	104.31	0.01
NTuckerDrain	Tributary	922.250	Max WS	146.43	4377.39	4396.11		4396.11	0.000001	0.17	874.56	82.64	0.01
NTuckerDrain	Tributary	1044.111	Max WS	130.86	4377.68	4396.11		4396.11	0.000001	0.15	896.24	84.14	0.01
NTuckerDrain	Tributary	1126.612	Max WS	120.98	4377.82	4396.11		4396.11	0.000001	0.13	993.03	119.88	0.01
NTuckerDrain	Tributary	1207.861	Max WS	110.88	4377.98	4396.11		4396.11	0.000001	0.12	926.26	95.34	0.01
NTuckerDrain	Tributary	1311.404	Max WS	98.41	4378.21	4396.11		4396.11	0.000000	0.08	1231.38	122.00	0.00
NTuckerDrain	Tributary	1363			Lat Struct								
NTuckerDrain	Tributary	1384			Lat Struct								
NTuckerDrain	Tributary	1385.576	Max WS	92.35	4377.59	4396.11		4396.11	0.000000	0.07	1438.61	122.12	0.00
NTuckerDrain	Tributary	1422			Culvert								
NTuckerDrain	Tributary	1465.880	Max WS	91.26	4377.68	4396.12		4396.12	0.000000	0.07	1316.24	115.92	0.00
NTuckerDrain	Tributary	1573.275	Max WS	115.31	4378.00	4396.12		4396.12	0.000000	0.10	1239.75	138.09	0.00
NTuckerDrain	Tributary	1686.195	Max WS	131.89	4378.41	4396.12		4396.12	0.000000	0.13	1089.52	110.36	0.01
NTuckerDrain	Tributary	1814.655	Max WS	138.21	4378.62	4396.12		4396.12	0.000000	0.14	1087.54	119.88	0.01
NTuckerDrain	Tributary	1927.129	Max WS	138.34	4378.66	4396.12		4396.12	0.000000	0.13	1116.94	113.52	0.01
NTuckerDrain	Tributary	2028			Lat Struct								
NTuckerDrain	Tributary	2029.295	Max WS	151.90	4378.68	4396.12		4396.12	0.000000	0.14	1227.90	116.25	0.01
NTuckerDrain	Tributary	2155.553	Max WS	151.38	4378.84	4396.12		4396.12	0.000000	0.13	1330.05	111.25	0.01
NTuckerDrain	Tributary	2250.105	Max WS	151.77	4378.97	4396.12		4396.12	0.000000	0.14	1218.36	98.83	0.01
NTuckerDrain	Tributary	2357.439	Max WS	152.24	4379.05	4396.12		4396.12	0.000001	0.17	1023.35	93.19	0.01
NTuckerDrain	Tributary	2439.675	Max WS	152.71	4379.14	4396.12		4396.12	0.000001	0.16	1093.58	97.58	0.01
NTuckerDrain	Tributary	2524.351	Max WS	152.16	4379.12	4396.12		4396.12	0.000001	0.16	1069.58	95.19	0.01
NTuckerDrain	Tributary	2624.223	Max WS	152.76	4379.23	4396.12		4396.12	0.000001	0.16	1066.53	95.60	0.01
NTuckerDrain	Tributary	2740.825	Max WS	152.91	4379.38	4396.12		4396.12	0.000001	0.17	1026.96	97.18	0.01
NTuckerDrain	Tributary	2827.477	Max WS	152.89	4379.43	4396.12		4396.12	0.000001	0.18	925.73	82.14	0.01
NTuckerDrain	Tributary	2905.768	Max WS	153.45	4379.41	4396.12		4396.12	0.000001	0.20	892.47	81.28	0.01
NTuckerDrain	Tributary	2981			Lat Struct								
NTuckerDrain	Tributary	2982.043	Max WS	153.26	4379.48	4396.12		4396.12	0.000001	0.17	1092.66	109.30	0.01
NTuckerDrain	Tributary	3010.569	Max WS	153.33	4379.55	4396.12		4396.12	0.000001	0.20	963.12	93.61	0.01
NTuckerDrain	Tributary	3059.291	Max WS	153.38	4379.52	4396.12		4396.12	0.000001	0.19	995.15	94.49	0.01
NTuckerDrain	Tributary	3100			Bridge								
NTuckerDrain	Tributary	3145.065	Max WS	153.33	4379.58	4396.20	4380.97	4396.20	0.000001	0.20	806.17	88.68	0.01
NTuckerDrain	Tributary	3188.225	Max WS	153.37	4381.11	4396.20		4396.20	0.000001	0.28	539.48	86.56	0.01
NTuckerDrain	Tributary	3298			Culvert								
NTuckerDrain	Tributary	3406.889	Max WS	153.37	4381.87	4396.36		4396.36	0.000002	0.28	539.69	85.93	0.01
NTuckerDrain	Tributary	3505.524	Max WS	153.56	4382.05	4396.36		4396.36	0.000003	0.29	553.44	81.06	0.02
NTuckerDrain	Tributary	3588.525	Max WS	153.64	4382.10	4396.36		4396.36	0.000004	0.32	501.58	85.98	0.02
NTuckerDrain	Tributary	3681.066	Max WS	201.50	4382.26	4396.35		4396.36	0.000006	0.39	525.44	80.70	0.02
NTuckerDrain	Tributary	3759.033	Max WS	277.63	4382.36	4396.35		4396.36	0.000010	0.51	552.55	69.40	0.03
NTuckerDrain	Tributary	3852.635	Max WS	392.44	4382.50	4396.35		4396.35	0.000015	0.67	623.11	86.77	0.04
NTuckerDrain	Tributary	3957.519	Max WS	540.70	4382.64	4396.33		4396.35	0.000035	1.05	565.33	79.67	0.06
NTuckerDrain	Tributary	4038.556	Max WS	680.86	4382.73	4396.32		4396.35	0.000050	1.26	571.18	72.79	0.07
NTuckerDrain	Tributary	4112			Lat Struct								
NTuckerDrain	Tributary	4113.982	Max WS	787.78	4382.86	4396.32		4396.34	0.000045	1.26	662.82	80.92	0.07
NTuckerDrain	Tributary	4218			Culvert								
NTuckerDrain	Tributary	4219.063	Max WS	787.56	4382.94	4396.31		4396.34	0.000060	1.48	572.58	61.78	0.08
NTuckerDrain	Tributary	4295.627	Max WS	694.01	4383.09	4396.33		4396.35	0.000011	1.19	615.16	68.81	0.07
NTuckerDrain	Tributary	4410			Lat Struct								
NTuckerDrain	Tributary	4411.208	Max WS	602.40	4383.18	4396.34		4396.36	0.000008	0.97	640.09	79.98	0.06
NTuckerDrain	Tributary	4547.564	Max WS	572.70	4383.35	4396.35		4396.36	0.000005	0.77	744.18	83.29	0.05
NTuckerDrain	Tributary	4680.862	Max WS	562.16	4383.49	4396.35		4396.36	0.000010	0.98	583.12	100.63	0.06
NTuckerDrain	Tributary	4783.775	Max WS	558.32	4383.49	4396.34		4396.36	0.000013	1.08	515.90	73.62	0.07
NTuckerDrain	Tributary	4888.770	Max WS	566.03	4383.73	4396.35		4396.36	0.000012	1.04	542.71	96.37	0.07
NTuckerDrain	Tributary	5021.206	Max WS	548.47	4383.90	4396.35		4396.37	0.000008	0.93	599.62	98.42	0.06
NTuckerDrain	Tributary	5168			Lat Struct								
NTuckerDrain	Tributary	5159.651	Max WS	536.29	4384.09	4396.35		4396.37	0.000011	1.06	546.57	89.60	0.06
NTuckerDrain	Tributary	5270.003	Max WS	529.43	4384.09	4396.35		4396.37	0.000009	1.01	689.69	139.94	0.06
NTuckerDrain	Tributary	5396.945	Max WS	522.15	4384.46	4396.35		4396.37	0.000011	1.08	616.97	113.61	0.06
NTuckerDrain	Tributary	5509.261	Max WS	520.58	4384.58	4396.36		4396.37	0.000009	1.00	673.21	123.04	0.06
NTuckerDrain	Tributary	5633.260	Max WS	523.47	4384.62	4396.36		4396.37	0.000028	0.92	682.19	130.99	0.05
NTuckerDrain	Tributary	5773.892	Max WS	523.55	4384.99	4396.36		4396.38	0.000038	0.99	585.30	109.47	0.06
NTuckerDrain	Tributary	5914.636	Max WS	556.08	4385.04	4396.37		4396.38	0.000045	1.07	572.91	118.01	0.07
NTuckerDrain	Tributary	6072.075	Max WS	604.34	4385.23	4396.37		4396.39	0.000046	1.07	615.70	123.22	0.07

HEC-RAS Plan: ex w marina Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
NTruckeeDrain	Tributary	6248.920	Max WS	681.98	4385.51	4396.37		4396.40	0.000101	1.40	536.66	124.38	0.10
NTruckeeDrain	Tributary	6418			Lat Struct								
NTruckeeDrain	Tributary	6419			Lat Struct								
NTruckeeDrain	Tributary	6420.515	Max WS	705.25	4385.56	4396.37		4396.41	0.000126	1.68	420.56	59.01	0.10
NTruckeeDrain	Tributary	6479			Culvert								
NTruckeeDrain	Tributary	6543.668	Max WS	793.39	4385.77	4396.65		4396.68	0.000070	1.36	588.28	115.72	0.08
NTruckeeDrain	Tributary	6649.255	Max WS	794.79	4385.97	4396.66		4396.69	0.000139	1.48	537.81	101.80	0.11
NTruckeeDrain	Tributary	6741.775	Max WS	793.69	4386.08	4396.67		4396.71	0.000167	1.62	491.37	114.60	0.12
NTruckeeDrain	Tributary	6869.778	Max WS	796.91	4386.27	4396.69		4396.73	0.000143	1.60	506.12	110.83	0.12
NTruckeeDrain	Tributary	7045.650	Max WS	795.72	4386.47	4396.71		4396.75	0.000123	1.51	528.01	105.25	0.11
NTruckeeDrain	Tributary	7155.739	Max WS	795.88	4386.62	4396.73		4396.76	0.000118	1.49	539.52	115.64	0.11
NTruckeeDrain	Tributary	7279.831	Max WS	795.78	4386.82	4396.74		4396.78	0.000130	1.48	536.93	96.20	0.11
NTruckeeDrain	Tributary	7413.038	Max WS	798.28	4386.94	4396.76		4396.80	0.000140	1.48	539.49	123.88	0.11
NTruckeeDrain	Tributary	7574.842	Max WS	798.49	4387.13	4396.79		4396.82	0.000135	1.45	561.04	127.37	0.11
NTruckeeDrain	Tributary	7733.466	Max WS	1016.04	4387.29	4396.81		4396.86	0.000208	1.89	548.56	107.70	0.14
NTruckeeDrain	Tributary	7922.604	Max WS	1017.24	4387.45	4396.84		4396.90	0.000229	2.01	508.62	98.65	0.15
NTruckeeDrain	Tributary	8120			Lat Struct								
NTruckeeDrain	Tributary	8121			Lat Struct								
NTruckeeDrain	Tributary	8122.300	Max WS	1017.13	4387.79	4396.89		4396.95	0.000245	2.07	501.95	114.84	0.15
NTruckeeDrain	Tributary	8313.991	Max WS	1018.76	4388.06	4396.94		4396.99	0.000196	1.79	597.00	138.26	0.14
NTruckeeDrain	Tributary	8453.293	Max WS	1022.89	4388.26	4396.97		4397.02	0.000201	1.86	595.11	153.47	0.14
NTruckeeDrain	Tributary	8512.691	Max WS	1030.55	4388.35	4396.99		4397.07	0.000396	2.26	456.65	101.87	0.19
NTruckeeDrain	Tributary	8857.967	Max WS	1031.54	4388.73	4397.09		4397.18	0.000501	2.42	426.68	102.08	0.21
NTruckeeDrain	Tributary	9008.538	Max WS	1031.43	4388.86	4397.16		4397.26	0.000547	2.54	406.75	96.83	0.22
NTruckeeDrain	Tributary	9124.049	Max WS	1037.69	4388.95	4397.22		4397.32	0.000565	2.57	404.33	96.98	0.22
NTruckeeDrain	Tributary	9257.442	Max WS	1038.91	4389.09	4397.28		4397.40	0.000602	2.75	377.82	85.10	0.23
NTruckeeDrain	Tributary	9416			Lat Struct								
NTruckeeDrain	Tributary	9417			Lat Struct								
NTruckeeDrain	Tributary	9418.609	Max WS	1039.06	4389.36	4397.39		4397.46	0.000226	2.16	481.07	151.81	0.15
NTruckeeDrain	Tributary	9523			Culvert								
NTruckeeDrain	Tributary	9609.739	Max WS	1049.28	4389.14	4397.77		4397.86	0.000275	2.42	432.84	64.89	0.16
NTruckeeDrain	Tributary	9755.691	Max WS	1049.24	4389.68	4397.83		4397.94	0.000747	2.55	411.36	123.06	0.25
NTruckeeDrain	Tributary	9876.722	Max WS	1050.07	4389.91	4397.93		4398.04	0.000906	2.66	394.53	128.06	0.27
NTruckeeDrain	Tributary	9970.661	Max WS	1050.69	4389.91	4398.00		4398.12	0.000854	2.79	376.03	108.50	0.26
NTruckeeDrain	Tributary	10060.93	Max WS	1051.48	4389.97	4398.07		4398.19	0.000632	2.67	393.72	92.81	0.23
NTruckeeDrain	Tributary	10150			Culvert								
NTruckeeDrain	Tributary	10224.98	Max WS	1051.90	4390.29	4398.25		4398.41	0.000730	3.17	331.91	64.14	0.25
NTruckeeDrain	Tributary	10249.67	Max WS	1051.92	4390.41	4398.24		4398.43	0.000989	3.50	300.59	67.57	0.29
NTruckeeDrain	Tributary	10318.94	Max WS	1051.23	4390.51	4398.28		4398.51	0.001263	3.82	275.46	65.97	0.33
NTruckeeDrain	Tributary	10403.03	Max WS	1057.67	4390.71	4398.47		4398.61	0.000995	2.99	353.30	103.24	0.29
NTruckeeDrain	Tributary	10566.82	Max WS	1057.66	4391.00	4398.64		4398.80	0.001057	3.18	332.82	92.89	0.30
NTruckeeDrain	Tributary	10757.07	Max WS	1059.64	4391.32	4398.84		4398.93	0.000520	2.37	446.36	114.68	0.21
NTruckeeDrain	Tributary	10953.3	Max WS	1061.46	4391.71	4398.95		4399.05	0.000766	2.53	419.74	131.43	0.25
NTruckeeDrain	Tributary	11153.09	Max WS	1063.63	4391.95	4399.08		4399.24	0.001095	3.18	334.25	95.96	0.30
NTruckeeDrain	Tributary	11303.18	Max WS	1066.55	4392.09	4399.23		4399.41	0.001161	3.37	316.55	86.29	0.31
NTruckeeDrain	Tributary	11493.21	Max WS	1067.77	4392.30	4399.43		4399.61	0.001012	3.42	312.65	75.18	0.30
NTruckeeDrain	Tributary	11682.43	Max WS	1070.19	4392.80	4399.61		4399.82	0.001211	3.66	292.59	73.06	0.32
NTruckeeDrain	Tributary	11844.90	Max WS	1071.04	4393.48	4399.80		4400.02	0.001259	3.78	283.18	69.38	0.33
NTruckeeDrain	Tributary	11980.38	Max WS	1071.51	4393.60	4399.98		4400.19	0.001236	3.71	288.47	71.69	0.33
NTruckeeDrain	Tributary	12155.32	Max WS	1071.81	4393.95	4400.19		4400.44	0.001582	3.99	268.55	71.39	0.36
NTruckeeDrain	Tributary	12352.30	Max WS	1077.13	4394.39	4400.55		4400.80	0.002007	4.08	264.12	82.24	0.40
NTruckeeDrain	Tributary	12585.95	Max WS	1077.97	4394.78	4400.98		4401.13	0.000916	3.05	353.61	95.11	0.28
NTruckeeDrain	Tributary	12752.35	Max WS	1077.82	4394.97	4401.12		4401.34	0.001674	3.77	285.81	87.77	0.37
NTruckeeDrain	Tributary	12836.48	Max WS	1078.08	4395.24	4401.27		4401.46	0.001042	3.42	315.38	78.47	0.30
NTruckeeDrain	Tributary	12929.29	Max WS	1078.15	4395.40	4401.33		4401.58	0.001613	3.99	270.22	74.14	0.37
NTruckeeDrain	Tributary	13020.16	Max WS	1078.15	4395.60	4401.47		4401.73	0.001718	4.11	262.38	72.12	0.38
NTruckeeDrain	Tributary	13127.54	Max WS	1078.20	4395.80	4401.61		4401.94	0.002274	4.61	233.63	66.42	0.43
NTruckeeDrain	Tributary	13259.96	Max WS	1078.16	4396.00	4401.87		4402.27	0.002677	5.09	211.68	58.22	0.47
NTruckeeDrain	Tributary	13328.54	Max WS	1078.21	4396.18	4402.09		4402.43	0.001936	4.64	232.42	57.55	0.41
SteamBoatCr	Lower	170.044	Max WS	5874.70	4371.85	4395.67		4395.90	0.000233	3.88	1526.31	105.42	0.18
SteamBoatCr	Lower	194.265	Max WS	5684.40	4372.89	4395.67		4395.92	0.000268	4.07	1405.92	100.12	0.19
SteamBoatCr	Lower	225.667	Max WS	5357.27	4373.22	4395.75		4395.96	0.000212	3.72	1449.66	97.90	0.17
SteamBoatCr	Lower	272.744	Max WS	4920.63	4373.65	4395.82		4396.00	0.000167	3.40	1463.69	93.70	0.15
SteamBoatCr	Lower	311.558	Max WS	4583.82	4373.93	4395.86		4396.03	0.000174	3.31	1404.02	100.16	0.15
SteamBoatCr	Lower	352.580	Max WS	4259.57	4373.87	4395.91		4396.06	0.000165	3.15	1369.06	101.16	0.15
SteamBoatCr	Lower	402.589	Max WS	3927.48	4373.49	4395.96		4396.09	0.000163	2.98	1342.83	101.39	0.14
SteamBoatCr	Lower	444.855	Max WS	3656.79	4373.55	4395.99		4396.12	0.000150	2.91	1269.86	96.62	0.14
SteamBoatCr	Lower	489.007	Max WS	3423.21	4373.49	4396.01		4396.14	0.000151	2.88	1206.25	94.10	0.14
SteamBoatCr	Lower	531.346	Max WS	3222.21	4373.38	4396.07		4396.16	0.000098	2.46	1326.76	94.05	0.11
SteamBoatCr	Lower	578.721	Max WS	3089.97	4373.33	4396.11		4396.17	0.000051	1.94	1613.37	99.77	0.08
SteamBoatCr	Lower	618.507	Max WS	3015.47	4373.22	4396.12		4396.17	0.000051	1.94	1571.54	96.65	0.08
SteamBoatCr	Lower	656.014	Max WS	2937.38	4373.18	4396.12		4396.18	0.000047	1.88	1588.88	95.93	0.08
SteamBoatCr	Lower	675.197	Max WS	2891.19	4373.27	4396.13		4396.18	0.000048	1.79	1638.52	111.67	0.08
SteamBoatCr	Lower	696.644	Max WS	2850.25	4373.00	4396.12		4396.18	0.000072	2.09	1377.75	98.48	0.10
SteamBoatCr	Lower	739.025	Max WS	2778.63	4373.12	4396.11		4396.19	0.000102	2.33	1272.22	113.97	0.11
SteamBoatCr	Lower	803.116	Max WS	2702.74	4374.07	4396.13		4396.20	0.000074	2.12	1330.71	107.92	0.10

HEC-RAS Plan ex w marina Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area: (sq ft)	Top Width (ft)	Froude # Chl
SteamBoatCr	Lower	837.580	Max WS	2663.30	4374.90	4396.14		4396.21	0.000086	2.21	1313.08	118.51	0.11
SteamBoatCr	Lower	869	Lat Struct										
SteamBoatCr	Lower	870.947	Max WS	2635.09	4375.16	4396.14		4396.21	0.000084	2.07	1294.04	108.34	0.10
SteamBoatCr	Lower	913.873	Max WS	2618.74	4375.16	4396.15		4396.21	0.000097	2.06	1278.84	120.85	0.11
SteamBoatCr	Lower	947.483	Max WS	2599.14	4375.11	4396.14		4396.22	0.000103	2.32	1152.51	91.85	0.11
SteamBoatCr	Lower	985.015	Max WS	2555.20	4375.33	4396.13		4396.23	0.000119	2.49	1056.28	85.71	0.12
SteamBoatCr	Lower	1020.015	Max WS	2530.83	4375.55	4396.15		4396.23	0.000106	2.33	1117.81	93.77	0.12
SteamBoatCr	Lower	1061.007	Max WS	2523.35	4375.76	4396.15		4396.24	0.000106	2.42	1105.00	91.56	0.12
SteamBoatCr	Lower	1098.598	Max WS	2527.44	4375.65	4396.18		4396.24	0.000072	2.02	1387.28	133.87	0.10
SteamBoatCr	Lower	1128.101	Max WS	2544.40	4375.44	4396.17		4396.24	0.000081	2.14	1281.89	117.01	0.10
SteamBoatCr	Lower	1177.102	Max WS	2544.44	4375.38	4396.16		4396.25	0.000134	2.54	1107.47	112.90	0.13
SteamBoatCr	Lower	1221.705	Max WS	2544.39	4375.49	4396.16		4396.26	0.000140	2.62	1072.68	113.76	0.13
SteamBoatCr	Lower	1270.942	Max WS	2544.74	4375.82	4396.20		4396.26	0.000076	1.96	1327.05	127.67	0.10
SteamBoatCr	Lower	1339.197	Max WS	2544.39	4375.93	4396.20		4396.26	0.000084	1.96	1312.75	138.54	0.10
SteamBoatCr	Lower	1388.816	Max WS	2544.38	4376.25	4396.22		4396.27	0.000071	1.80	1417.55	145.13	0.10
SteamBoatCr	Lower	1430.836	Max WS	2644.40	4376.31	4396.23		4396.27	0.000059	1.65	1543.06	161.03	0.09
SteamBoatCr	Lower	1456.113	Max WS	2544.41	4376.42	4396.23		4396.27	0.000062	1.66	1533.04	160.35	0.09
SteamBoatCr	Lower	1491.787	Max WS	2544.41	4376.42	4396.23		4396.27	0.000062	1.65	1541.56	145.47	0.09
SteamBoatCr	Lower	1533.670	Max WS	2544.59	4376.58	4396.24		4396.27	0.000053	1.56	1632.54	166.84	0.08
SteamBoatCr	Lower	1571.944	Max WS	2544.78	4376.67	4396.24		4396.28	0.000051	1.57	1643.77	171.31	0.08
SteamBoatCr	Lower	1610	Lat Struct										
SteamBoatCr	Lower	1611.775	Max WS	2544.84	4376.76	4396.24		4396.28	0.000053	1.56	1647.59	173.23	0.08
SteamBoatCr	Lower	1650.082	Max WS	2544.60	4376.73	4396.24		4396.28	0.000058	1.63	1587.82	175.01	0.09
SteamBoatCr	Lower	1686.056	Max WS	2544.65	4376.72	4396.24		4396.28	0.000061	1.69	1545.96	169.73	0.09
SteamBoatCr	Lower	1725.015	Max WS	2544.94	4376.58	4396.24		4396.29	0.000068	1.77	1482.37	163.04	0.09
SteamBoatCr	Lower	1764.518	Max WS	2544.68	4376.64	4396.24		4396.29	0.000077	1.87	1418.41	165.69	0.10
SteamBoatCr	Lower	1811.719	Max WS	2545.32	4376.31	4396.24		4396.29	0.000077	1.93	1381.70	152.67	0.10
SteamBoatCr	Lower	1853.106	Max WS	2544.73	4376.21	4396.24		4396.30	0.000088	2.00	1336.61	164.87	0.11
SteamBoatCr	Lower	1876.472	Max WS	2544.76	4376.02	4396.24		4396.30	0.000080	2.04	1351.43	157.61	0.10
SteamBoatCr	Lower	1909.980	Max WS	2568.79	4375.89	4396.24		4396.30	0.000087	2.14	1383.49	169.58	0.11
SteamBoatCr	Lower	1944.241	Max WS	2662.79	4376.15	4396.23		4396.30	0.000101	2.32	1340.98	156.24	0.11
SteamBoatCr	Lower	1986.717	Max WS	2777.36	4376.45	4396.23		4396.30	0.000096	2.18	1436.15	162.30	0.11
SteamBoatCr	Lower	2030.680	Max WS	2917.75	4376.45	4396.24		4396.30	0.000075	2.05	1597.15	163.48	0.10
SteamBoatCr	Lower	2069.347	Max WS	3032.63	4376.59	4396.23		4396.30	0.000081	2.19	1541.84	153.53	0.11
SteamBoatCr	Lower	2112.440	Max WS	3130.43	4376.72	4396.19		4396.30	0.000119	2.67	1261.57	120.25	0.13
SteamBoatCr	Lower	2157.305	Max WS	3194.44	4376.85	4396.19		4396.30	0.000124	2.72	1268.89	122.42	0.13
SteamBoatCr	Lower	2200.879	Max WS	3245.75	4376.85	4396.18		4396.30	0.000144	2.85	1230.17	122.73	0.14
SteamBoatCr	Lower	2241.068	Max WS	3271.29	4376.85	4396.17		4396.31	0.000159	2.99	1185.66	119.53	0.15
SteamBoatCr	Lower	2280.799	Max WS	3280.58	4376.85	4396.17		4396.31	0.000167	3.12	1145.14	113.35	0.15
SteamBoatCr	Lower	2321.408	Max WS	3289.78	4376.85	4396.17		4396.32	0.000169	3.14	1139.54	112.44	0.15
SteamBoatCr	Lower	2358	Lat Struct										
SteamBoatCr	Lower	2359.917	Max WS	3313.10	4376.85	4396.18		4396.32	0.000162	3.11	1156.86	111.72	0.15
SteamBoatCr	Lower	2403.772	Max WS	3368.89	4376.40	4396.19		4396.33	0.000151	2.99	1224.62	119.40	0.14
SteamBoatCr	Lower	2449.652	Max WS	3451.11	4376.21	4396.20		4396.33	0.000139	3.08	1365.07	135.89	0.14
SteamBoatCr	Lower	2504.428	Max WS	3554.77	4375.83	4396.20		4396.33	0.000153	3.16	1381.80	139.93	0.14
SteamBoatCr	Lower	2554.089	Max WS	3660.47	4375.95	4396.20		4396.34	0.000158	3.20	1422.85	149.82	0.14
SteamBoatCr	Lower	2610.043	Max WS	3772.78	4375.82	4396.21		4396.34	0.000149	3.10	1518.32	163.13	0.14
SteamBoatCr	Lower	2669.902	Max WS	3909.31	4375.95	4396.23		4396.33	0.000122	2.81	1728.00	185.10	0.13
SteamBoatCr	Lower	2715.208	Max WS	4007.99	4376.53	4396.19		4396.34	0.000165	3.18	1468.30	159.60	0.15
SteamBoatCr	Lower	2760.717	Max WS	4051.03	4376.75	4396.17		4396.35	0.000219	3.55	1357.57	168.08	0.17
SteamBoatCr	Lower	2811.290	Max WS	4064.01	4377.07	4396.17		4396.37	0.000243	3.76	1371.91	168.32	0.18
SteamBoatCr	Lower	2863.930	Max WS	4098.43	4376.85	4396.18		4396.38	0.000224	3.76	1404.68	166.61	0.17
SteamBoatCr	Lower	2919.977	Max WS	4177.66	4376.72	4396.19		4396.38	0.000220	3.73	1442.35	168.68	0.16
SteamBoatCr	Lower	2984.158	Max WS	4249.61	4376.96	4396.17		4396.40	0.000273	4.03	1360.47	172.98	0.18
SteamBoatCr	Lower	3047.244	Max WS	4189.86	4377.16	4396.10		4396.44	0.000448	4.85	1034.01	168.05	0.24
SteamBoatCr	Lower	3109.126	Max WS	4089.05	4377.45	4396.15		4396.49	0.000480	4.91	1030.91	175.39	0.24
SteamBoatCr	Lower	3171	Lat Struct										
SteamBoatCr	Lower	3172.000	Max WS	4138.41	4377.35	4396.21		4396.50	0.000360	4.45	1128.81	176.59	0.21
SteamBoatCr	Lower	3566.178	Max WS	2715.64	4377.36	4396.45		4396.46	0.000019	1.18	4168.95	543.65	0.05
SteamBoatCr	Lower	3875.902	Max WS	2730.02	4376.78	4396.46		4396.47	0.000017	1.07	5082.21	718.73	0.05
SteamBoatCr	Lower	4023	Lat Struct										
SteamBoatCr	Lower	4024.010	Max WS	2727.46	4377.18	4396.44		4396.49	0.000063	1.79	2114.62	393.40	0.09
SteamBoatCr	Lower	4061	Bridge										
SteamBoatCr	Lower	4075.498	Max WS	2727.14	4377.23	4396.57	4382.22	4396.58	0.000008	0.77	6705.10	792.40	0.03
SteamBoatCr	Lower	4149.056	Max WS	2644.84	4377.10	4396.57		4396.58	0.000013	0.88	4528.26	483.42	0.04
SteamBoatCr	Lower	4216.902	Max WS	2650.32	4377.23	4396.57		4396.58	0.000013	0.96	4253.20	437.06	0.04
SteamBoatCr	Lower	4266.142	Max WS	2484.41	4377.45	4396.57		4396.58	0.000014	1.01	4028.33	437.47	0.04
SteamBoatCr	Lower	4317.378	Max WS	2414.48	4377.64	4396.57		4396.58	0.000015	1.03	3803.49	404.52	0.05
SteamBoatCr	Lower	4367.189	Max WS	2345.78	4377.41	4396.57		4396.58	0.000014	1.00	3828.53	386.19	0.04
SteamBoatCr	Lower	4410.447	Max WS	2289.72	4377.05	4396.58		4396.58	0.000011	0.91	4043.21	415.25	0.04
SteamBoatCr	Lower	4456.105	Max WS	2234.05	4376.53	4396.58		4396.58	0.000010	0.86	4188.50	420.97	0.04
SteamBoatCr	Lower	4500.090	Max WS	2190.07	4376.04	4396.58		4396.58	0.000009	0.83	4329.20	425.57	0.04
SteamBoatCr	Lower	4543.360	Max WS	2154.28	4376.45	4396.58		4396.59	0.000010	0.89	4004.77	404.29	0.04
SteamBoatCr	Lower	4585.215	Max WS	2117.84	4376.75	4396.58		4396.59	0.000010	0.90	3889.92	389.61	0.04
SteamBoatCr	Lower	4633.821	Max WS	2075.67	4376.95	4396.58		4396.59	0.000013	0.97	3522.79	363.86	0.04
SteamBoatCr	Lower	4677.849	Max WS	2039.67	4377.56	4396.58		4396.59	0.000016	1.08	3083.00	328.24	0.05

HEC-RAS Plan: ex w marina Profile: Max WS (Continued)

HEC-RAS Plan: ex w marina Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
SteamBoatCr	Lower	12921.66	Max WS	1660.19	4380.50	4396.64	4385.06	4396.72	0.000111	2.29	693.03	232.57	0.11
SteamBoatCr	Lower	12995.01	Max WS	1561.73	4381.00	4396.69		4396.71	0.000026	1.11	1778.89	326.59	0.06
SteamBoatCr	Lower	13069.79	Max WS	1668.99	4381.09	4396.70		4396.71	0.000009	0.72	2614.05	325.28	0.04
SteamBoatCr	Lower	13142.79	Max WS	1803.40	4381.13	4396.70		4396.71	0.000005	0.57	3511.86	392.10	0.03
SteamBoatCr	Lower	13212.23	Max WS	1919.94	4381.22	4396.70		4396.71	0.000004	0.52	4190.87	439.26	0.02
SteamBoatCr	Lower	13268.25	Max WS	2043.52	4381.30	4396.70		4396.71	0.000004	0.51	4148.12	346.29	0.02
SteamBoatCr	Lower	13381.56	Max WS	2202.87	4381.33	4396.70		4396.71	0.000003	0.46	5113.33	435.49	0.02
SteamBoatCr	Lower	13488			Lat Struct								
SteamBoatCr	Lower	13489.18	Max WS	2370.68	4383.48	4396.70		4396.71	0.000006	0.55	4697.53	503.50	0.03
SteamBoatCr	Lower	13579.42	Max WS	2368.93	4381.72	4396.70		4396.71	0.000003	0.44	5720.62	538.34	0.02
SteamBoatCr	Upper	13630.60	Max WS	1561.25	4381.76	4396.70		4396.71	0.000003	0.42	3892.28	295.07	0.02
SteamBoatCr	Upper	13709.34	Max WS	1560.59	4381.88	4396.70		4396.71	0.000003	0.43	3931.16	309.18	0.02
SteamBoatCr	Upper	13773.89	Max WS	1552.23	4382.04	4396.70		4396.71	0.000002	0.37	4395.41	337.03	0.02
SteamBoatCr	Upper	13855.50	Max WS	1545.29	4382.07	4396.71		4396.71	0.000001	0.31	5194.45	390.74	0.01
SteamBoatCr	Upper	13956.74	Max WS	1536.33	4382.13	4396.71		4396.71	0.000002	0.39	4132.07	335.19	0.02
SteamBoatCr	Upper	14061.65	Max WS	1521.72	4382.39	4396.70		4396.71	0.000007	0.66	2448.95	204.00	0.03
SteamBoatCr	Upper	14143.03	Max WS	1493.38	4382.48	4396.70		4396.71	0.000017	0.98	1648.17	155.81	0.05
SteamBoatCr	Upper	14224			Lat Struct								
SteamBoatCr	Upper	14225.22	Max WS	1460.48	4382.55	4396.70		4396.71	0.000015	0.90	1837.36	179.35	0.05
SteamBoatCr	Upper	14333.23	Max WS	1432.77	4382.71	4396.71		4396.71	0.000007	0.64	2537.32	241.01	0.03
SteamBoatCr	Upper	14419.30	Max WS	1428.57	4382.90	4396.71		4396.71	0.000005	0.56	2881.49	274.63	0.03
SteamBoatCr	Upper	14456			Lat Struct								
SteamBoatCr	Upper	14527.17	Max WS	1427.97	4382.99	4396.71		4396.71	0.000004	0.47	3376.19	316.76	0.02
SteamBoatCr	Upper	14615.11	Max WS	1427.14	4383.15	4396.71		4396.71	0.000002	0.32	4923.66	437.39	0.02
SteamBoatCr	Upper	14702.45	Max WS	1427.96	4383.18	4396.71		4396.71	0.000001	0.18	8315.80	751.03	0.01
SteamBoatCr	Upper	14800.91	Max WS	1427.25	4383.40	4396.71		4396.71	0.000000	0.15	9709.60	897.24	0.01
SteamBoatCr	Upper	14869			Lat Struct								
SteamBoatCr	Upper	14870.51	Max WS	1416.53	4383.45	4396.71		4396.71	0.000001	0.18	8151.34	952.38	0.01
SteamBoatCr	Upper	14939.41	Max WS	1416.62	4383.59	4396.71		4396.71	0.000001	0.25	6227.17	923.41	0.01
SteamBoatCr	Upper	15136.44	Max WS	1414.03	4383.82	4396.71		4396.72	0.000005	0.49	4260.61	943.29	0.03
SteamBoatCr	Upper	15321.63	Max WS	1413.77	4384.07	4396.71		4396.72	0.000006	0.56	3651.40	872.58	0.03
SteamBoatCr	Upper	15497.00	Max WS	1413.89	4384.28	4396.71		4396.72	0.000008	0.61	3654.85	932.90	0.03
SteamBoatCr	Upper	15699			Lat Struct								
SteamBoatCr	Upper	15700.20	Max WS	1415.91	4384.60	4396.72		4396.72	0.000003	0.37	4876.66	952.02	0.02
SteamBoatCr	Upper	15823.40	Max WS	1422.57	4384.81	4396.72		4396.72	0.000003	0.40	4231.01	856.86	0.02
SteamBoatCr	Upper	16010.99	Max WS	1431.21	4384.67	4396.72		4396.72	0.000003	0.39	4675.60	929.51	0.02
SteamBoatCr	Upper	16196.10	Max WS	1440.75	4384.81	4396.72		4396.72	0.000003	0.40	4572.96	851.25	0.02
SteamBoatCr	Upper	16386.81	Max WS	1459.02	4384.70	4396.72		4396.72	0.000004	0.42	4374.48	849.05	0.02
SteamBoatCr	Upper	16529.29	Max WS	1470.62	4384.79	4396.72		4396.72	0.000003	0.37	5048.62	1051.51	0.02
SteamBoatCr	Upper	16712.94	Max WS	1492.70	4385.00	4396.72		4396.72	0.000005	0.40	4386.94	985.66	0.02
SteamBoatCr	Upper	16865.61	Max WS	1514.38	4385.20	4396.72		4396.72	0.000005	0.41	4223.93	740.70	0.02
SteamBoatCr	Upper	17000			Lat Struct								
SteamBoatCr	Upper	17009.16	Max WS	1522.55	4385.20	4396.72		4396.72	0.000005	0.43	3942.24	660.45	0.03
SteamBoatCr	Upper	17235.56	Max WS	1512.01	4385.57	4396.72		4396.72	0.000005	0.45	3874.13	600.36	0.03
SteamBoatCr	Upper	17377.60	Max WS	1507.35	4386.01	4396.72		4396.73	0.000006	0.50	3334.55	468.68	0.03
SteamBoatCr	Upper	17469.81	Max WS	1506.18	4386.28	4396.72		4396.73	0.000007	0.51	3098.53	383.94	0.03
SteamBoatCr	Upper	17562.79	Max WS	1503.42	4386.69	4396.72		4396.73	0.000006	0.50	3117.09	354.46	0.03
SteamBoatCr	Upper	17638.41	Max WS	1501.91	4386.88	4396.72		4396.73	0.000006	0.51	3045.38	347.11	0.03
SteamBoatCr	Upper	17712.09	Max WS	1500.92	4386.08	4396.72		4396.73	0.000008	0.55	2813.81	318.47	0.03
SteamBoatCr	Upper	17779.24	Max WS	1500.14	4386.28	4396.72		4396.73	0.000009	0.58	2676.21	300.87	0.03
SteamBoatCr	Upper	17845.72	Max WS	1494.08	4386.00	4396.72		4396.73	0.000009	0.60	2570.26	294.90	0.03
SteamBoatCr	Upper	17942			Lat Struct								
SteamBoatCr	Upper	17943.58	Max WS	1492.08	4386.70	4396.72		4396.73	0.000009	0.60	2597.11	288.14	0.03
SteamBoatCr	Upper	18092.36	Max WS	1490.11	4386.80	4396.72		4396.73	0.000013	0.69	2274.88	270.35	0.04
SteamBoatCr	Upper	18207.00	Max WS	1495.30	4386.78	4396.73		4396.73	0.000011	0.64	2455.31	303.74	0.04
SteamBoatCr	Upper	18312.85	Max WS	1494.64	4386.88	4396.73		4396.73	0.000009	0.59	2673.91	339.16	0.03
SteamBoatCr	Upper	18432.08	Max WS	1498.60	4386.89	4396.73		4396.73	0.000012	0.62	2616.39	357.65	0.04
SteamBoatCr	Upper	18549.50	Max WS	1499.10	4387.31	4396.73		4396.74	0.000029	1.00	2108.03	360.89	0.06
SteamBoatCr	Upper	18680.59	Max WS	1503.13	4387.30	4396.73		4396.74	0.000030	1.03	2124.04	362.92	0.06
SteamBoatCr	Upper	18801.33	Max WS	1516.59	4387.49	4396.73		4396.74	0.000028	0.98	2435.03	448.09	0.06
SteamBoatCr	Upper	18908.23	Max WS	1557.28	4387.61	4396.74		4396.75	0.000033	1.04	2408.19	482.20	0.06
SteamBoatCr	Upper	19035			Lat Struct								
SteamBoatCr	Upper	19036.19	Max WS	1617.71	4387.71	4396.74		4396.75	0.000040	1.13	2196.40	457.91	0.07
SteamBoatCr	Upper	19146.18	Max WS	1615.58	4388.51	4396.75		4396.76	0.000043	1.08	3619.20	1729.30	0.07
SteamBoatCr	Upper	19221			Culvert								
SteamBoatCr	Upper	19296.90	Max WS	1620.19	4388.60	4396.79		4396.80	0.000048	1.11	3846.92	1976.89	0.07
SteamBoatCr	Upper	19318.01	Max WS	1620.26	4388.80	4396.78		4396.81	0.000094	1.45	1681.79	1996.02	0.10
SteamBoatCr	Upper	19433.49	Max WS	1617.18	4388.90	4396.80		4396.81	0.000070	1.02	2031.14	1943.04	0.08
SteamBoatCr	Upper	19514.99	Max WS	1621.16	4389.00	4396.79		4396.83	0.000168	1.79	1337.90	1495.72	0.13
SteamBoatCr	Upper	19621.57	Max WS	1623.03	4389.17	4396.81		4396.86	0.000320	1.79	904.97	1521.84	0.17
SteamBoatCr	Upper	19726.97	Max WS	1621.63	4389.46	4396.81		4396.89	0.000258	2.29	780.94	1832.82	0.16
SteamBoatCr	Upper	19752	Max WS	4827.15	4389.62	4396.94		4397.11	0.001772	5.29	2877.05	1833.93	0.40
SteamBoatCr	Upper	19760			Bridge								
SteamBoatCr	Upper	19772.07	Max WS	4850.94	4389.62	4398.81	4392.97	4398.81	0.000105	1.56	13803.12	2536.93	0.10
SteamBoatCr	Upper	19846.7*	Max WS	4851.73	4389.80	4398.81		4398.82	0.000118	1.54	12970.05	2541.68	0.11
SteamBoatCr	Upper	19921.4*	Max WS	4851.74	4389.98	4398.82		4398.83	0.000128	1.49	12141.22	2540.27	0.11

HEC-RAS Plan: ex w marina Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (sq ft)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SteamBoatCr	Upper	19996.2*	Max WS	4853.20	4390.16	4398.83		4398.84	0.000141	1.44	11346.81	2483.01	0.11
SteamBoatCr	Upper	20070.9*	Max WS	4852.26	4390.34	4398.84		4398.85	0.000154	1.39	10557.79	2483.49	0.11
SteamBoatCr	Upper	20145.64	Max WS	4852.98	4390.52	4398.85		4398.86	0.000168	1.38	9780.95	2479.95	0.12
SteamBoatCr	Upper	20222.2*	Max WS	4853.22	4390.69	4398.86		4398.87	0.000175	1.37	9599.39	2441.47	0.12
SteamBoatCr	Upper	20298.8*	Max WS	4852.95	4390.87	4398.88		4398.88	0.000182	1.37	9425.32	2402.72	0.12
SteamBoatCr	Upper	20375.4*	Max WS	4854.57	4391.04	4398.89		4398.89	0.000190	1.37	9255.70	2363.76	0.12
SteamBoatCr	Upper	20452.01	Max WS	4855.83	4391.21	4398.90		4398.91	0.000197	1.37	9091.41	2324.23	0.12
SteamBoatCr	Upper	20522.8*	Max WS	4856.71	4391.38	4398.92		4398.92	0.000197	1.38	9029.00	2275.33	0.12
SteamBoatCr	Upper	20593.7*	Max WS	4858.17	4391.54	4398.93		4398.94	0.000198	1.39	8973.22	2231.85	0.12
SteamBoatCr	Upper	20664.66	Max WS	4854.76	4391.71	4398.95		4398.95	0.000197	1.36	8951.17	2201.21	0.12
SteamBoatCr	Upper	20733.4*	Max WS	4858.82	4391.81	4398.97		4398.97	0.000265	1.59	8154.77	2188.68	0.14
SteamBoatCr	Upper	20802.3*	Max WS	4858.63	4391.91	4398.99		4399.00	0.000317	1.76	7512.53	2047.55	0.15
SteamBoatCr	Upper	20871.17	Max WS	4860.15	4392.01	4399.02		4399.03	0.000374	1.93	7062.50	2009.74	0.17
SteamBoatCr	Upper	20952.9*	Max WS	4859.62	4392.09	4399.05		4399.06	0.000436	2.06	6648.80	1941.57	0.18
SteamBoatCr	Upper	21034.7*	Max WS	4861.31	4392.17	4399.08		4399.09	0.000501	2.17	6261.62	1866.34	0.19
SteamBoatCr	Upper	21116.5*	Max WS	4862.38	4392.24	4399.11		4399.13	0.000565	2.27	5906.84	1766.73	0.20
SteamBoatCr	Upper	21198.3*	Max WS	4862.46	4392.32	4399.15		4399.17	0.000623	2.34	5592.11	1666.94	0.21
SteamBoatCr	Upper	21280.14	Max WS	4863.51	4392.40	4399.20		4399.22	0.000694	2.43	5318.82	1594.79	0.21
SteamBoatCr	Upper	21331.4*	Max WS	4864.38	4392.51	4399.25		4399.27	0.000841	2.76	4999.55	1569.51	0.24
SteamBoatCr	Upper	21382.8*	Max WS	4863.09	4392.63	4399.31		4399.33	0.01010	3.16	4720.95	1584.27	0.27
SteamBoatCr	Upper	21434.20	Max WS	4865.55	4392.74	4399.38		4399.41	0.001188	3.61	4462.78	1601.65	0.30
SteamBoatCr	Upper	21505.6*	Max WS	4869.43	4392.87	4399.51		4399.55	0.001838	4.11	3927.53	1637.90	0.36
SteamBoatCr	Upper	21577.12	Max WS	4873.51	4393.00	4399.70		4399.77	0.002696	5.00	3490.94	1656.14	0.42
SteamBoatCr	Upper	21635.5*	Max WS	4873.85	4393.17	4399.87		4399.94	0.002590	4.64	3548.91	1704.22	0.43
SteamBoatCr	Upper	21693.9*	Max WS	4874.69	4393.34	4400.02		4400.10	0.002338	4.59	3608.38	1738.77	0.43
SteamBoatCr	Upper	21752.38	Max WS	4874.88	4393.51	4400.15		4400.25	0.002058	4.71	3658.89	1754.56	0.42
SteamBoatCr	Upper	21829.6*	Max WS	4875.14	4393.70	4400.31		4400.40	0.002568	4.91	3522.63	1773.68	0.46
SteamBoatCr	Upper	21906.9*	Max WS	4875.64	4393.89	4400.50		4400.59	0.002899	5.20	3455.57	1769.12	0.48
SteamBoatCr	Upper	21984.17	Max WS	4876.09	4394.08	4400.71		4400.79	0.003080	5.55	3458.26	1801.75	0.48
SteamBoatCr	Upper	22057.11*	Max WS	4876.38	4394.46	4400.90		4400.97	0.002926	5.14	3583.94	1866.42	0.47
SteamBoatCr	Upper	22130.0*	Max WS	4877.83	4394.83	4401.08		4401.14	0.002640	4.71	3748.05	1902.88	0.45
SteamBoatCr	Upper	22202.9*	Max WS	4877.89	4395.21	4401.24		4401.30	0.002348	4.40	3906.04	1940.07	0.43
SteamBoatCr	Upper	22275.93	Max WS	4878.54	4395.59	4401.39		4401.44	0.002104	4.18	4077.16	1982.85	0.41
SteamBoatCr	Upper	22363.6*	Max WS	4879.04	4395.65	4401.54		4401.58	0.002105	4.20	4083.03	1995.58	0.41
SteamBoatCr	Upper	22451.1*	Max WS	4879.30	4395.71	4401.68		4401.73	0.002101	4.21	4091.46	2007.19	0.41
SteamBoatCr	Upper	22538.7*	Max WS	4879.61	4395.77	4401.83		4401.88	0.002079	4.21	4101.67	2012.75	0.40
SteamBoatCr	Upper	22526.4*	Max WS	4879.62	4395.83	4401.98		4402.02	0.002069	4.21	4113.33	2013.26	0.40
SteamBoatCr	Upper	22714.0*	Max WS	4879.02	4395.90	4402.12		4402.17	0.002069	4.23	4120.78	2018.94	0.40
SteamBoatCr	Upper	22801.6*	Max WS	4880.32	4395.96	4402.26		4402.31	0.002064	4.24	4124.89	2029.41	0.40
SteamBoatCr	Upper	22889.2*	Max WS	4881.17	4396.02	4402.40		4402.45	0.002054	4.25	4131.61	2029.72	0.40
SteamBoatCr	Upper	22976.87	Max WS	4881.46	4396.08	4402.53		4402.58	0.002040	4.25	4137.75	2026.04	0.40
Truckee	Lower	123.156	Max WS	20247.42	4366.38	4380.34	4374.59	4380.96	0.001008	6.46	3428.27	403.01	0.35
Truckee	Lower	198.520	Max WS	20247.69	4365.83	4379.87		4381.19	0.002721	9.35	2366.87	335.19	0.55
Truckee	Lower	407.494*	Max WS	20248.11	4363.71	4380.35		4381.43	0.002187	8.32	2433.91	279.10	0.50
Truckee	Lower	616.469	Max WS	20247.87	4361.59	4381.02		4381.59	0.001162	6.22	3693.77	546.46	0.36
Truckee	Lower	769.794	Max WS	20248.78	4367.64	4380.76		4381.88	0.002088	8.50	2383.58	255.45	0.49
Truckee	Lower	945.446*	Max WS	20248.74	4367.36	4380.92		4382.28	0.002457	9.33	2169.92	228.38	0.53
Truckee	Lower	1121.10*	Max WS	20247.49	4367.08	4381.08		4382.74	0.002823	10.33	1959.59	195.95	0.58
Truckee	Lower	1296.75*	Max WS	20248.53	4366.81	4381.19		4383.28	0.003379	11.62	1742.90	166.10	0.63
Truckee	Lower	1472.411	Max WS	20246.78	4366.53	4381.10		4383.98	0.004557	13.61	1487.53	138.07	0.73
Truckee	Lower	1638.40*	Max WS	20249.04	4366.79	4381.81		4384.74	0.004578	13.73	1475.15	135.47	0.73
Truckee	Lower	1804.40*	Max WS	20249.23	4367.05	4382.76		4385.44	0.003925	13.13	1542.15	134.03	0.68
Truckee	Lower	1970.402	Max WS	20249.14	4367.31	4383.63		4385.99	0.002751	12.34	1641.39	132.68	0.62
Truckee	Lower	2095.32*	Max WS	20248.27	4367.30	4384.37		4386.30	0.002200	11.16	1813.60	145.68	0.56
Truckee	Lower	2220.24*	Max WS	20249.52	4367.29	4384.91		4386.56	0.001848	10.31	1964.86	157.14	0.51
Truckee	Lower	2345.16*	Max WS	20249.47	4367.27	4385.34		4386.77	0.001594	9.62	2105.93	168.45	0.48
Truckee	Lower	2470.082	Max WS	20249.68	4367.26	4385.70		4386.96	0.001328	8.99	2291.13	207.70	0.44
Truckee	Lower	2622.13*	Max WS	20249.95	4367.26	4385.98		4387.15	0.001156	8.70	2411.12	226.16	0.41
Truckee	Lower	2774.18*	Max WS	20249.15	4367.25	4386.21		4387.31	0.001032	8.47	2538.30	254.83	0.39
Truckee	Lower	2926.24*	Max WS	20249.51	4367.25	4386.42		4387.47	0.000939	8.28	2691.35	299.28	0.38
Truckee	Lower	3078.293	Max WS	20249.92	4367.25	4386.62		4387.80	0.000663	8.09	2879.87	321.52	0.36
Truckee	Lower	3209.10*	Max WS	20249.96	4367.63	4386.66		4387.73	0.000988	8.43	2687.10	320.04	0.38
Truckee	Lower	3339.90*	Max WS	20250.01	4368.00	4386.72		4387.87	0.001092	8.64	2548.27	305.88	0.40
Truckee	Lower	3470.71*	Max WS	20250.58	4368.38	4386.86		4388.01	0.001133	8.62	2488.61	290.61	0.41
Truckee	Lower	3601.522	Max WS	20250.38	4368.76	4387.05		4388.14	0.001097	8.42	2490.92	282.04	0.40
Truckee	Lower	3727.95*	Max WS	20250.65	4368.84	4387.11		4388.29	0.001213	8.75	2372.67	268.63	0.42
Truckee	Lower	3854.38*	Max WS	20250.62	4368.93	4387.17		4388.45	0.001343	9.09	2259.75	248.53	0.44
Truckee	Lower	3980.82*	Max WS	20250.90	4369.02	4387.26		4388.63	0.001433	9.39	2170.52	210.52	0.45
Truckee	Lower	4107.256	Max WS	20251.14	4369.10	4387.38		4388.81	0.001491	9.62	2111.87	169.87	0.46
Truckee	Lower	4273.28*	Max WS	20251.09	4368.98	4387.59		4389.06	0.001479	9.74	2088.45	183.22	0.46
Truckee	Lower	4439.31*	Max WS	20251.36	4368.87	4387.80		4389.30	0.001451	9.84	2073.08	183.97	0.46
Truckee	Lower	4605.342	Max WS	20251.38	4368.75	4388.02		4389.54	0.001423	9.90	2065.38	180.37	0.45
Truckee	Lower	4731.37*	Max WS	20251.71	4368.79	4388.16		4389.73	0.001489	10.06	2042.99	178.61	0.47
Truckee	Lower	4857.39*	Max WS	20251.48	4368.83	4388.34		4389.92	0.001513	10.09	2047.10	178.83	0.47
Truckee</td													

HEC-RAS Plan: ex w marina Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Lower	5241.07*	Max WS	20251.51	4369.49	4388.91		4390.47	0.001565	10.03	2019.65	145.52	0.47
Truckee	Lower	5372.68*	Max WS	20251.81	4370.06	4389.14		4390.68	0.001611	9.98	2029.01	149.92	0.48
Truckee	Lower	5504.302	Max WS	20251.71	4370.64	4389.38		4390.90	0.001632	9.87	2052.41	154.73	0.48
Truckee	Lower	5616.15*	Max WS	20251.86	4370.38	4389.76		4391.06	0.001326	9.15	2212.26	162.05	0.44
Truckee	Lower	5728.00*	Max WS	20251.63	4370.13	4390.08		4391.19	0.001038	8.46	2392.42	164.71	0.39
Truckee	Lower	5839.856	Max WS	20252.07	4369.87	4390.35		4391.30	0.000796	7.82	2609.08	176.31	0.35
Truckee	Lower	6039.843	Max WS	20251.96	4370.02	4390.57		4391.32	0.000673	6.98	3078.10	226.64	0.30
Truckee	Lower	6088.776	Max WS	20252.04	4370.12	4390.42		4391.35	0.000695	7.77	2697.52	183.16	0.33
Truckee	Lower	6216.105	Max WS	20252.12	4370.07	4390.35		4391.47	0.000861	8.58	2508.16	178.99	0.37
Truckee	Lower	6327.249	Max WS	20252.21	4370.07	4390.19		4391.61	0.001124	9.73	2294.25	172.96	0.42
Truckee	Lower	6489.055	Max WS	20252.12	4370.16	4390.14		4391.83	0.001349	10.63	2101.91	165.66	0.46
Truckee	Lower	6619.967	Max WS	20252.54	4370.08	4390.41		4391.98	0.001232	10.19	2137.90	164.74	0.44
Truckee	Lower	6682.363	Max WS	20252.49	4370.05	4390.48		4392.08	0.001268	10.31	2201.81	191.68	0.44
Truckee	Lower	6735.577	Max WS	20252.42	4370.10	4390.67		4392.12	0.001174	9.83	2267.46	189.24	0.43
Truckee	Lower	6812.174	Max WS	20252.64	4370.05	4390.72		4392.26	0.001212	10.35	2383.11	213.29	0.43
Truckee	Lower	6887.051	Max WS	20252.21	4370.20	4391.19		4392.24	0.000755	8.43	2683.62	191.19	0.35
Truckee	Lower	6976.285	Max WS	20252.34	4370.20	4391.10		4392.32	0.000856	8.96	2446.12	167.02	0.37
Truckee	Lower	7131.793	Max WS	20252.60	4370.20	4390.89		4392.50	0.001539	10.20	1984.65	135.65	0.47
Truckee	Lower	7258.546	Max WS	20252.71	4370.21	4391.83		4392.61	0.000638	7.08	2881.54	194.11	0.31
Truckee	Lower	7406.445	Max WS	20253.04	4370.23	4392.05		4392.69	0.000541	6.44	3379.49	271.14	0.27
Truckee	Lower	7511.357	Max WS	20251.95	4370.24	4392.07		4392.76	0.000566	6.72	3664.91	366.90	0.28
Truckee	Lower	7654.775	Max WS	20252.42	4370.25	4392.10		4392.87	0.000642	7.10	3534.47	365.80	0.30
Truckee	Lower	7820.225	Max WS	20252.52	4370.26	4392.35		4392.93	0.000611	6.17	3927.45	381.85	0.25
Truckee	Lower	7961.973	Max WS	20253.53	4370.27	4392.38		4393.05	0.000732	6.60	3819.25	369.50	0.27
Truckee	Lower	8090.012	Max WS	20253.18	4370.29	4392.49		4393.14	0.000703	6.57	4127.03	453.35	0.27
Truckee	Lower	8228.509	Max WS	20253.83	4370.29	4392.53		4393.28	0.000848	7.09	4277.73	529.86	0.29
Truckee	Lower	8388.340	Max WS	20253.91	4370.33	4392.67		4393.42	0.000828	7.19	4623.51	611.36	0.30
Truckee	Lower	8490.330	Max WS	20253.96	4370.40	4392.80		4393.47	0.000732	6.74	4785.37	625.78	0.28
Truckee	Lower	8617.348	Max WS	20254.13	4370.50	4392.96		4393.51	0.000631	6.12	5004.60	664.72	0.26
Truckee	Lower	8745.655	Max WS	20254.93	4370.61	4393.03		4393.60	0.000617	6.19	4537.62	692.20	0.26
Truckee	Lower	8898.097	Max WS	20255.05	4370.74	4393.12		4393.71	0.000665	6.46	4247.87	712.93	0.27
Truckee	Lower	9064.256	Max WS	20255.58	4370.88	4393.29		4393.81	0.000622	6.19	4523.48	678.67	0.26
Truckee	Lower	9124.953	Max WS	20255.38	4370.94	4393.29		4393.86	0.000643	6.39	4323.18	686.21	0.26
Truckee	Lower	9234.001	Max WS	20256.11	4371.04	4393.13		4393.96	0.000872	7.39	3238.77	416.57	0.30
Truckee	Lower	9385.354	Max WS	20256.04	4371.18	4393.40		4394.05	0.000709	6.67	4426.59	476.74	0.27
Truckee	Lower	9584.781	Max WS	20256.56	4371.38	4393.51		4394.22	0.000762	6.90	4336.31	544.94	0.28
Truckee	Lower	9758	Lat Struct										
Truckee	Lower	9759.033	Max WS	20256.79	4371.68	4393.67		4394.37	0.000894	6.95	4179.21	471.04	0.30
Truckee	Lower	9901.465	Max WS	20257.00	4371.55	4393.92		4394.39	0.000487	5.65	4626.63	433.87	0.23
Truckee	Lower	10054.85	Max WS	20257.12	4371.41	4393.99		4394.46	0.000484	5.63	4388.41	371.61	0.23
Truckee	Lower	10237.23	Max WS	20257.69	4371.18	4394.06		4394.55	0.000485	5.64	3937.30	302.21	0.23
Truckee	Lower	10411.34	Max WS	20257.62	4371.06	4394.07		4394.67	0.000593	6.30	4070.31	331.25	0.25
Truckee	Lower	10562.53	Max WS	20257.99	4371.23	4394.20		4394.74	0.000630	5.93	4008.79	308.52	0.24
Truckee	Lower	10738.99	Max WS	20257.31	4371.28	4394.23		4394.85	0.000679	6.35	3344.77	226.87	0.27
Truckee	Lower	10929.09	Max WS	20258.30	4371.10	4394.52		4394.95	0.000453	5.30	4074.86	296.79	0.22
Truckee	Lower	11083.70	Max WS	20258.78	4371.07	4394.65		4395.00	0.000325	4.84	4570.39	299.42	0.19
Truckee	Lower	11233	Lat Struct										
Truckee	Lower	11234.17	Max WS	20258.61	4371.29	4394.49		4395.12	0.000672	6.65	3638.36	296.98	0.27
Truckee	Lower	11383.49	Max WS	20259.06	4371.25	4394.60		4395.22	0.000642	6.56	3689.28	287.78	0.26
Truckee	Lower	11496.09	Max WS	20259.08	4371.13	4394.71		4395.28	0.000604	6.27	3682.68	240.55	0.25
Truckee	Lower	11617.76	Max WS	20259.24	4371.14	4394.67		4395.36	0.000718	6.77	3219.26	209.79	0.27
Truckee	Lower	11704.35	Max WS	20257.89	4371.18	4394.69		4395.43	0.000779	6.93	3082.45	201.05	0.29
Truckee	Lower	11819.83	Max WS	20258.48	4371.16	4394.75		4395.52	0.000826	7.09	2982.63	194.39	0.29
Truckee	Lower	11921.75	Max WS	20258.04	4371.16	4394.88		4395.59	0.000728	6.80	3103.93	192.77	0.28
Truckee	Lower	12052.52	Max WS	20259.54	4371.17	4394.99		4395.69	0.000733	6.77	3113.01	195.69	0.27
Truckee	Lower	12194.90	Max WS	20259.62	4371.00	4395.30		4395.76	0.000426	5.47	3791.49	198.74	0.21
Truckee	Lower	12289	Lat Struct										
Truckee	Lower	12290.45	Max WS	20259.70	4369.75	4395.37		4395.80	0.000386	5.28	3939.08	204.20	0.20
Truckee	Lower	12411.23	Max WS	20259.52	4370.97	4395.36		4395.85	0.000454	5.65	3727.50	209.23	0.22
Truckee	Lower	12558	Lat Struct										
Truckee	Lower	12559.40	Max WS	20260.14	4370.72	4395.52		4395.91	0.000365	5.01	4169.07	283.32	0.20
Truckee	Lower	12674.60	Max WS	20260.09	4371.11	4395.67		4395.94	0.000236	4.19	4971.25	297.44	0.17
Truckee	Middle	12793.06	Max WS	14365.39	4371.02	4395.67		4395.98	0.000161	3.80	4323.70	285.03	0.16
Truckee	Middle	12883.59	Max WS	13348.97	4371.08	4395.70		4395.93	0.000181	3.98	3911.46	269.47	0.16
Truckee	Middle	13012.33	Max WS	12288.97	4371.32	4395.67		4396.00	0.000276	4.71	2795.30	194.30	0.20
Truckee	Middle	13144.50	Max WS	11291.38	4371.56	4395.77		4396.09	0.000291	4.62	2561.03	184.75	0.20
Truckee	Middle	13261	Lat Struct										
Truckee	Middle	13261.42	Max WS	10525.12	4371.78	4395.90		4396.16	0.000242	4.07	2608.39	174.38	0.18
Truckee	Middle	13313.60	Max WS	10525.22	4371.86	4395.95		4396.17	0.000176	3.75	2871.74	180.18	0.16
Truckee	Upper	13390.04	Max WS	8899.71	4372.00	4395.95		4396.09	0.000113	3.02	3000.51	184.08	0.13
Truckee	Upper	13518.64	Max WS	8304.87	4372.24	4395.99		4396.13	0.000117	3.04	2821.85	183.77	0.13
Truckee	Upper	13580.82	Max WS	7765.33	4372.55	4396.03		4396.17	0.000139	2.94	2661.49	187.81	0.14
Truckee	Upper	13849.40	Max WS	7501.62	4372.75	4396.07		4396.20	0.000127	2.88	2626.61	180.16	0.13
Truckee	Upper	14023.34	Max WS	7064.66	4372.81	4396.11		4396.23	0.000122	2.85	2506.55	168.85	0.13
Truckee	Upper	14202.18	Max WS	7016.27	4372.87	4396.15		4396.25	0.000099	2.55	2760.02	182.74	0.11

HEC-RAS Plan ex w marina Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El. (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl. (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	14346.78	Max WS	7105.23	4372.92	4396.15		4396.27	0.000095	2.75	2674.43	179.61	0.12
Truckee	Upper	14544.98	Max WS	7152.52	4372.98	4396.16		4396.29	0.000109	2.86	2583.81	188.10	0.12
Truckee	Upper	14767.08	Max WS	7404.29	4373.05	4396.17		4396.30	0.000120	2.98	2539.16	168.85	0.13
Truckee	Upper	15058	Lat Struct										
Truckee	Upper	15057.88	Max WS	7967.23	4373.13	4396.18		4396.32	0.000112	2.98	2840.29	219.16	0.13
Truckee	Upper	15300.51	Max WS	7919.02	4373.19	4396.21		4396.35	0.000121	2.98	2747.22	197.03	0.13
Truckee	Upper	15528.35	Max WS	7454.45	4373.25	4396.25		4396.39	0.000125	3.06	2514.18	194.53	0.13
Truckee	Upper	15768	Lat Struct										
Truckee	Upper	15769.99	Max WS	7385.11	4373.08	4396.28		4396.43	0.000146	3.10	2389.83	161.13	0.14
Truckee	Upper	15920	Lat Struct										
Truckee	Upper	15921.59	Max WS	6805.04	4372.96	4396.37		4396.46	0.000096	2.51	2723.04	191.18	0.11
Truckee	Upper	16122.59	Max WS	5888.22	4372.87	4396.41		4396.51	0.000092	2.61	2336.88	157.21	0.11
Truckee	Upper	16308.12	Max WS	5472.00	4372.71	4396.47		4396.54	0.000052	2.03	2753.43	171.74	0.09
Truckee	Upper	16452.05	Max WS	5444.67	4372.50	4396.47		4396.54	0.000066	2.23	2507.53	163.95	0.10
Truckee	Upper	16620.83	Max WS	5404.53	4372.97	4396.47		4396.56	0.000096	2.39	2294.86	182.86	0.11
Truckee	Upper	16794.88	Max WS	5442.73	4373.41	4396.50		4396.57	0.000068	2.10	2600.66	179.66	0.10
Truckee	Upper	17030.21	Max WS	5660.20	4373.79	4396.52		4396.58	0.000050	2.02	2872.28	180.95	0.08
Truckee	Upper	17231	Lat Struct										
Truckee	Upper	17232.01	Max WS	5978.62	4373.87	4396.51		4396.59	0.000059	2.18	2961.54	238.27	0.09
Truckee	Upper	17433.06	Max WS	6112.53	4373.91	4396.51		4396.60	0.000070	2.36	2825.78	230.73	0.10
Truckee	Upper	17594	Lat Struct										
Truckee	Upper	17595.00	Max WS	6414.20	4373.92	4396.53		4396.60	0.000052	2.09	3198.20	213.35	0.09
Truckee	Upper	17774.81	Max WS	6638.85	4373.90	4396.52		4396.61	0.000074	2.38	3071.38	277.17	0.10
Truckee	Upper	17966.96	Max WS	6877.74	4373.85	4396.53		4396.61	0.000072	2.40	2969.12	207.34	0.10
Truckee	Upper	18117.31	Max WS	6948.01	4373.82	4396.52		4396.63	0.000096	2.64	2698.63	194.91	0.11
Truckee	Upper	18285	Lat Struct										
Truckee	Upper	18286.70	Max WS	7145.66	4374.02	4396.54		4396.64	0.000080	2.51	3048.53	245.48	0.11
Truckee	Upper	18488.74	Max WS	7424.08	4374.29	4396.55		4396.64	0.000074	2.38	3285.37	261.55	0.10
Truckee	Upper	18690.00	Max WS	7703.84	4374.58	4396.54		4396.66	0.000111	2.79	2893.02	242.61	0.12
Truckee	Upper	18915.19	Max WS	8130.50	4374.90	4396.53		4396.67	0.000150	3.02	2765.94	219.03	0.14
Truckee	Upper	19172	Lat Struct										
Truckee	Upper	19173.34	Max WS	8615.35	4375.30	4396.54		4396.69	0.000142	3.10	2839.49	216.22	0.14
Truckee	Upper	19428.21	Max WS	8801.38	4375.70	4396.54		4396.73	0.000199	3.49	2583.19	221.35	0.16
Truckee	Upper	19646.39	Max WS	9005.74	4376.06	4396.55		4396.77	0.000223	3.74	2440.68	184.17	0.17
Truckee	Upper	19800	Lat Struct										
Truckee	Upper	19871.73	Max WS	9058.61	4376.43	4396.57		4396.83	0.000320	4.16	2476.10	298.67	0.21
Truckee	Upper	20102.60	Max WS	8915.55	4376.84	4396.64		4396.92	0.000339	4.33	2366.65	283.08	0.21
Truckee	Upper	20349.62	Max WS	9105.99	4377.29	4396.66		4397.02	0.000457	4.98	2195.08	286.86	0.24
Truckee	Upper	20652.04	Max WS	10102.92	4377.85	4396.78		4397.07	0.000290	4.38	2691.81	269.20	0.20
Truckee	Upper	20878	Lat Struct										
Truckee	Upper	20879.99	Max WS	10731.30	4378.31	4396.68		4397.14	0.000531	5.63	2219.47	242.01	0.27
Truckee	Upper	21080	Lat Struct										
Truckee	Upper	21091.93	Max WS	11238.12	4378.69	4396.84		4397.21	0.000494	4.99	2473.94	278.59	0.25
Truckee	Upper	21263.33	Max WS	11350.94	4379.05	4396.97		4397.28	0.000399	4.54	2831.54	334.37	0.23
Truckee	Upper	21437	Lat Struct										
Truckee	Upper	21438.30	Max WS	11344.78	4379.43	4397.00		4397.38	0.000600	5.06	2687.53	441.83	0.27
Truckee	Upper	21650.04	Max WS	11433.98	4379.87	4397.12		4397.48	0.000451	4.90	2658.00	428.81	0.24
Truckee	Upper	21817.75	Max WS	11555.71	4380.22	4397.25		4397.54	0.000452	4.35	2676.04	268.73	0.24
Truckee	Upper	21974	Lat Struct										
Truckee	Upper	21975.48	Max WS	12300.88	4380.50	4397.19		4397.57	0.000478	4.96	2484.64	211.46	0.25
Truckee	Upper	22100	Lat Struct										
Truckee	Upper	22178.73	Max WS	12275.54	4380.68	4397.11		4397.72	0.000841	6.24	1971.30	178.16	0.33
Truckee	Upper	22334	Lat Struct										
Truckee	Upper	22335.52	Max WS	12161.40	4381.00	4397.09		4397.90	0.001269	7.27	1755.68	220.51	0.40
Truckee	Upper	22503.45	Max WS	12129.04	4381.30	4397.40		4398.10	0.000987	6.69	1813.38	160.22	0.35
Truckee	Upper	22686	Lat Struct										
Truckee	Upper	22687	Lat Struct										
Truckee	Upper	22688.58	Max WS	12261.06	4381.60	4397.86		4398.23	0.000546	4.91	2524.87	252.72	0.26
Truckee	Upper	22944.66	Max WS	12313.00	4382.22	4397.91		4398.41	0.000607	5.93	2482.32	236.29	0.28
Truckee	Upper	23112.71	Max WS	12407.36	4382.48	4398.06		4398.50	0.000785	5.30	2352.34	262.49	0.31
Truckee	Upper	23262	Lat Struct										
Truckee	Upper	23263.74	Max WS	12451.78	4382.79	4397.98		4398.64	0.001153	6.53	1916.93	206.90	0.37
Truckee	Upper	23433.78	Max WS	12497.43	4383.09	4397.97		4398.86	0.001474	7.58	1652.51	174.49	0.42
Truckee	Upper	23608	Lat Struct										
Truckee	Upper	23609.90	Max WS	12895.01	4383.51	4398.58		4399.07	0.000696	5.59	2368.72	260.10	0.30
Truckee	Upper	23764.74	Max WS	13433.07	4383.78	4398.58		4399.14	0.000675	6.03	2344.24	221.57	0.30
Truckee	Upper	23902	Lat Struct										
Truckee	Upper	23903.66	Max WS	14166.90	4384.11	4398.49		4399.19	0.000876	6.75	2229.95	243.50	0.34
Truckee	Upper	24094.85	Max WS	14136.72	4384.41	4398.19		4399.37	0.001634	8.74	1665.23	195.59	0.45
Truckee	Upper	24231	Lat Struct										
Truckee	Upper	24232.12	Max WS	14861.61	4384.69	4398.45		4399.62	0.001655	8.77	1831.63	229.37	0.46
Truckee	Upper	24373.14	Max WS	15122.29	4384.99	4398.81		4399.82	0.001860	8.08	1898.75	241.23	0.47
Truckee	Upper	24558.96	Max WS	15674.22	4385.29	4399.22		4400.07	0.001161	7.66	2463.96	315.67	0.39
Truckee	Upper	24749.13	Max WS	15871.89	4385.68	4399.63		4400.18	0.000664	6.05	2999.27	337.32	0.30
Truckee	Upper	24897.16	Max WS	15926.24	4385.87	4399.63		4400.30	0.000848	6.78	2703.05	284.90	0.34
Truckee	Upper	25043.05	Max WS	15940.80	4386.20	4399.08		4400.69	0.002371	10.41	1775.10	247.68	0.54

HEC-RAS Plan: ex w marina Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area: (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	25319			Lat Struct								
Truckee	Upper	25320.47	Max WS	15979.67	4386.70	4400.27		4401.08	0.001250	7.22	2212.22	213.23	0.40
Truckee	Upper	25557.57	Max WS	15980.01	4387.21	4400.62		4401.39	0.001297	7.48	2144.89	209.11	0.41
Truckee	Upper	25685.79	Max WS	15980.61	4387.39	4400.30		4401.61	0.002158	9.21	1742.75	186.83	0.52
Truckee	Upper	25785		Lat Struct									
Truckee	Upper	25786		Lat Struct									
Truckee	Upper	25787.10	Max WS	15981.02	4387.64	4400.33		4401.88	0.003159	10.01	1596.69	190.25	0.61
Truckee	Upper	25800		Bridge									
Truckee	Upper	25935.87	Max WS	15984.42	4388.73	4400.85	4397.73	4402.49	0.002852	10.32	1606.08	212.26	0.59
Truckee	Upper	26056.23	Max WS	15982.69	4388.90	4400.74		4403.09	0.004369	12.29	1253.31	147.85	0.72
Truckee	Upper	26167.21	Max WS	15988.22	4389.06	4401.69		4403.58	0.003096	11.04	1385.71	152.64	0.61
Truckee	Upper	26319.22	Max WS	14912.41	4388.73	4402.61		4404.00	0.002097	9.51	1673.89	223.09	0.51
Truckee	Upper	26464		Lat Struct									
Truckee	Upper	26465.88	Max WS	14703.96	4388.66	4402.60		4404.44	0.003158	10.91	1392.69	200.24	0.62
Truckee	Upper	26588.41	Max WS	14603.41	4388.96	4403.40		4404.79	0.002542	9.49	1554.02	197.24	0.55
Truckee	Upper	26711.46	Max WS	14722.21	4388.03	4403.77		4405.03	0.001734	9.01	1643.22	159.10	0.47
Truckee	Upper	26853		Lat Struct									
Truckee	Upper	26854.46	Max WS	14841.82	4389.25	4403.58		4405.36	0.003074	10.71	1392.65	148.68	0.61
Truckee	Upper	27010		Lat Struct									
Truckee	Upper	27011.59	Max WS	15019.31	4390.45	4404.63		4405.69	0.001626	8.77	2167.04	273.82	0.45
Truckee	Upper	27150.44	Max WS	15509.66	4390.74	4404.92		4405.80	0.001330	7.87	2260.54	234.33	0.41
Truckee	Upper	27281		Lat Struct									
Truckee	Upper	27282.45	Max WS	15732.25	4390.83	4405.04		4405.92	0.001317	7.56	2080.11	192.24	0.41
Truckee	Upper	27427.44	Max WS	15627.08	4390.31	4405.15		4406.12	0.001540	7.89	2007.77	197.53	0.43
Truckee	Upper	27571.37	Max WS	15844.34	4391.53	4404.42		4406.62	0.003693	12.19	1436.31	165.07	0.67
Truckee	Upper	27678		Lat Struct									
Truckee	Upper	27679.10	Max WS	15844.33	4391.80	4404.30		4407.13	0.004941	13.76	1261.15	153.72	0.77
Truckee	Upper	27840.41	Max WS	15847.59	4391.73	4406.04		4407.59	0.002485	10.30	1741.06	204.64	0.55
Truckee	Upper	27953.75	Max WS	15909.92	4391.89	4406.60		4407.80	0.001984	9.38	1873.41	206.64	0.50
Truckee	Upper	28078		Lat Struct									
Truckee	Upper	28079.65	Max WS	16007.20	4392.21	4406.71		4408.02	0.002120	9.18	1762.31	199.35	0.51
Truckee	Upper	28333		Lat Struct									
Truckee	Upper	28334.18	Max WS	16322.93	4392.92	4407.28		4408.45	0.001695	8.71	1884.22	179.59	0.46
Truckee	Upper	28560		Lat Struct									
Truckee	Upper	28561.76	Max WS	16041.80	4393.85	4407.80		4408.86	0.001529	8.23	1948.71	181.61	0.44
Truckee	Upper	28777.22	Max WS	15907.77	4394.54	4408.22		4409.19	0.001406	7.89	2018.17	168.18	0.42
Truckee	Upper	28986.09	Max WS	15613.71	4394.76	4408.41		4409.59	0.001893	8.76	1864.98	216.13	0.49
Truckee	Upper	29163		Lat Struct									
Truckee	Upper	29164.29	Max WS	15870.09	4395.37	4408.75		4409.87	0.001645	8.56	1996.19	241.70	0.46
Truckee	Upper	29422.51	Max WS	16805.41	4395.58	4408.80		4410.34	0.003123	9.97	1697.76	208.57	0.61
Truckee	Upper	29634		Lat Struct									
Truckee	Upper	29635.26	Max WS	17202.67	4396.01	4409.22		4410.91	0.002751	10.53	1743.51	222.18	0.59
Truckee	Upper	29931.50	Max WS	18097.53	4396.44	4410.06		4411.48	0.002252	9.60	1958.42	227.98	0.53
Truckee	Upper	30210		Lat Struct									
Truckee	Upper	30211.71	Max WS	18388.91	4397.40	4410.52		4412.40	0.003723	11.66	1970.68	296.32	0.67
Truckee	Upper	30509.03	Max WS	18390.85	4397.79	4411.63		4413.32	0.002913	10.86	1974.42	245.44	0.60
Truckee	Upper	30788		Lat Struct									
Truckee	Upper	30789.09	Max WS	18414.67	4397.85	4412.50		4414.13	0.003410	10.26	1794.91	216.58	0.63
Truckee	Upper	31037.96	Max WS	18670.65	4398.21	4413.73		4414.71	0.001586	7.91	2366.69	245.26	0.44
Truckee	Upper	31273.71	Max WS	18983.77	4400.22	4413.91		4415.07	0.001617	8.73	2313.37	260.51	0.46
Truckee	Upper	31522		Lat Struct									
Truckee	Upper	31523.22	Max WS	18988.66	4401.01	4414.30		4415.49	0.001770	8.86	2266.20	261.24	0.48
Truckee	Upper	31795.06	Max WS	19033.02	4401.29	4414.42		4416.11	0.002750	10.49	1867.53	221.85	0.58
Truckee	Upper	31963.03	Max WS	19033.47	4401.58	4414.75		4416.64	0.003468	11.03	1755.07	219.63	0.65
Truckee	Upper	32100.13	Max WS	19033.60	4401.78	4415.16		4417.12	0.003399	11.28	1749.73	240.46	0.65
Truckee	Upper	32219		Lat Struct									
Truckee	Upper	32220		Lat Struct									
Truckee	Upper	32220.09	Max WS	19066.45	4401.83	4415.92		4417.43	0.002265	9.89	1970.77	216.16	0.53
Truckee	Upper	32300		Bridge									
Truckee	Upper	32323.85	Max WS	19066.25	4403.13	4416.30	4412.36	4417.83	0.002256	9.96	1946.27	210.49	0.54
Truckee	Upper	32391.38	Max WS	19066.13	4403.64	4415.81		4418.05	0.003697	12.06	1626.75	189.52	0.67
Truckee	Upper	32460.36	Max WS	18907.77	4403.96	4418.67		4418.27	0.002435	10.23	1943.83	233.18	0.56
Truckee	Upper	32566.20	Max WS	18726.50	4404.43	4417.33		4418.50	0.001773	8.89	2348.32	288.84	0.48
Truckee	Upper	32707.99	Max WS	18490.90	4405.04	4417.65		4418.80	0.001946	8.91	2446.13	360.83	0.50
Truckee	Upper	32851.30	Max WS	18366.85	4405.68	4417.69		4419.23	0.002959	10.22	2148.69	414.59	0.60
Truckee	Upper	32983		Lat Struct									
Truckee	Upper	32984.21	Max WS	18299.85	4406.26	4418.04		4419.65	0.003422	10.34	2021.81	435.91	0.64
Truckee	Upper	33141.24	Max WS	18360.97	4406.88	4419.12		4419.91	0.001400	7.49	3048.33	455.53	0.42
Truckee	Upper	33318.83	Max WS	18423.03	4407.51	4419.30		4420.20	0.001894	7.86	2739.28	438.20	0.48
Truckee	Upper	33477.26	Max WS	18422.78	4408.00	4419.07		4420.60	0.002855	9.93	1855.28	207.52	0.59
Truckee	Upper	33642		Lat Struct									
Truckee	Upper	33642.99	Max WS	18424.14	4409.14	4419.68		4421.06	0.002747	9.44	1990.74	459.08	0.57
Truckee	Upper	33812.80	Max WS	18424.77	4409.29	4419.83		4421.64	0.003762	10.81	1797.97	351.75	0.66
Truckee	Upper	33931		Lat Struct									
Truckee	Upper	33932.07	Max WS	18428.38	4409.08	4420.59		4422.03	0.003087	9.64	1949.74	262.61	0.60
Truckee	Upper	34046.91	Max WS	18431.19	4409.39	4420.33		4422.51	0.005129	11.85	1661.74	443.16	0.76

HEC-RAS Plan: ex w marina Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev. (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	34236.54	Max WS	18461.55	4409.87	4421.69	4419.09	4423.30	0.003522	10.24	1972.59	704.46	0.64
Truckee	Upper	34453			Lat Struct								
Truckee	Upper	34454.76	Max WS	18661.48	4410.63	4422.21		4424.21	0.003772	11.78	2165.70	801.56	0.68
Truckee	Upper	34676.91	Max WS	19046.13	4410.29	4422.68		4424.97	0.004353	12.15	1567.81	568.71	0.72
Truckee	Upper	34935.32	Max WS	19050.99	4410.80	4423.46		4426.29	0.005802	13.51	1410.03	508.25	0.82
Truckee	Upper	35260			Lat Struct								
Truckee	Upper	35261.04	Max WS	19052.08	4411.25	4425.85		4427.65	0.002780	10.80	1887.12	715.31	0.59
Truckee	Upper	35351			Lat Struct								
Truckee	Upper	35352.36	Max WS	19051.91	4411.42	4426.06		4427.90	0.002522	11.01	1877.78	211.97	0.57
Truckee	Upper	35400			Bridge								
Truckee	Upper	35486.25	Max WS	19052.08	4411.57	4428.02	4422.21	4429.12	0.001294	8.68	2569.06	618.54	0.42
Truckee	Upper	35606.05	Max WS	19051.30	4411.78	4428.16		4429.23	0.001206	8.30	2312.57	576.16	0.40
Truckee	Upper	35730.91	Max WS	19051.86	4412.07	4428.14		4429.41	0.001687	9.04	2114.98	534.05	0.47
Truckee	Upper	35849			Lat Struct								
Truckee	Upper	35860			Lat Struct								
Truckee	Upper	35881.46	Max WS	19052.61	4413.29	4428.39		4429.62	0.001683	8.93	2190.50	568.11	0.47
Truckee	Upper	35919			Inl Struct								
Truckee	Upper	36059.71	Max WS	19051.00	4417.93	4431.30	4427.48	4432.35	0.001749	8.72	3037.54	578.20	0.47
Truckee	Upper	36209.78	Max WS	19076.35	4418.30	4430.87	4428.58	4433.01	0.003900	12.37	1756.00	477.09	0.69
Truckee	Upper	36391.32	Max WS	19226.61	4418.31	4432.06		4433.42	0.002285	9.92	2630.24	466.29	0.54
Truckee	Upper	36568			Lat Struct								
Truckee	Upper	36569.41	Max WS	19533.48	4418.08	4432.09		4433.92	0.003100	11.13	2116.23	377.99	0.62
Truckee	Upper	36725.76	Max WS	19699.14	4418.04	4432.67		4434.34	0.002990	10.69	2275.41	453.70	0.60
Truckee	Upper	36929.19	Max WS	20190.85	4417.88	4433.57		4434.73	0.002114	9.41	3182.88	628.90	0.51
Truckee	Upper	37156			Lat Struct								
Truckee	Upper	37157			Lat Struct								
Truckee	Upper	37157.78	Max WS	20657.12	4418.82	4433.38		4435.65	0.005485	12.09	1708.34	543.23	0.78
Truckee	Upper	37430.40	Max WS	20658.91	4420.25	4435.42		4436.83	0.003513	9.59	2371.51	812.22	0.63
Truckee	Upper	37723			Lat Struct								
Truckee	Upper	37724.79	Max WS	20716.29	4421.93	4434.74	4434.49	4438.78	0.007904	16.13	1285.38	348.97	0.96
Truckee	Upper	37946.04	Max WS	20725.69	4422.77	4438.07		4439.62	0.002382	10.11	2353.71	541.28	0.55
Truckee	Upper	38183			Lat Struct								
Truckee	Upper	38184.85	Max WS	20726.69	4423.49	4438.60		4440.11	0.002109	9.84	2105.89	189.02	0.52
Truckee	Upper	38371.89	Max WS	20727.20	4424.00	4439.55		4440.42	0.001321	7.80	3215.96	371.46	0.41
Truckee	Upper	38400			Bridge								
Truckee	Upper	38526	Max WS	20727.84	4424.10	4439.95	4435.41	4440.99	0.001607	8.47	3149.57	467.51	0.45
Truckee	Upper	38546.68	Max WS	20727.94	4426.00	4440.09		4440.97	0.001780	7.55	2828.21	459.19	0.46
Truckee	Upper	38790			Inl Struct								
Truckee	Upper	38793.81	Max WS	20726.57	4431.28	4444.16	4441.46	4445.20	0.002015	8.59	3859.40	1118.72	0.52
Truckee	Upper	38891.88	Max WS	20727.12	4431.47	4444.29		4445.44	0.002208	9.01	3582.05	1033.18	0.54
Truckee	Upper	39038.50	Max WS	20728.14	4431.07	4444.41		4446.05	0.002669	10.91	3410.64	954.59	0.61
Truckee	Upper	39325.14	Max WS	20728.28	4431.41	4445.18		4446.57	0.002210	9.93	3412.79	810.67	0.56
Truckee	Upper	39567.24	Max WS	20728.76	4431.68	4445.52		4447.09	0.002317	10.17	2669.37	921.11	0.57
Truckee	Upper	39763.07	Max WS	20729.71	4431.91	4446.00		4447.50	0.002021	10.06	2632.69	550.18	0.54
Truckee	Upper	39956.88	Max WS	20730.70	4432.13	4446.27		4447.94	0.002239	10.55	2567.57	691.85	0.56
Truckee	Upper	40145.43	Max WS	20731.60	4432.42	4446.87		4448.44	0.002034	10.71	2826.57	776.39	0.55
Truckee	Upper	40324.24	Max WS	20732.16	4432.83	4446.62	4444.96	4449.01	0.003947	12.54	1904.80	565.21	0.73
Truckee	Upper	40471.90	Max WS	20730.96	4433.17	4447.34	4445.29	4449.50	0.003543	11.86	1949.08	589.39	0.69
Truckee	Upper	40652.89	Max WS	20733.15	4433.56	4448.34		4450.00	0.002639	10.53	2347.21	522.60	0.60
Truckee	Upper	40837.92	Max WS	20733.21	4433.92	4449.00		4450.38	0.002087	9.51	2511.24	434.75	0.54
Truckee	Upper	41084.64	Max WS	20732.34	4434.37	4449.31		4450.98	0.002819	10.35	2003.01	196.66	0.57
Truckee	Upper	41236.61	Max WS	20732.08	4434.25	4449.65		4451.40	0.002781	10.62	1952.52	176.59	0.56
Truckee	Upper	41361.23	Max WS	20733.43	4433.96	4449.94		4451.72	0.002329	10.70	1936.84	176.84	0.57
Truckee	Upper	41521.41	Max WS	20733.11	4433.97	4449.78		4452.16	0.003054	12.38	1674.28	149.32	0.65
Truckee	Upper	41611.80	Max WS	20732.37	4434.02	4450.85		4452.37	0.001833	9.87	2101.32	181.21	0.51

Appendix C

Southern Area Encroachments

HEC-RAS Plan: SA dev-south Profile: Max WS

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
NTtruckeeDrain	Tributary	107,382	Max WS	1687.63	4375.48	4396.44		4396.48	0.000064	1.62	1130.04	104.84	0.07
NTtruckeeDrain	Tributary	178,328	Max WS	1328.33	4375.60	4396.47		4396.49	0.000048	1.27	1104.08	115.82	0.06
NTtruckeeDrain	Tributary	251,492	Max WS	1032.87	4375.80	4396.49		4396.50	0.000028	0.97	1117.10	111.57	0.05
NTtruckeeDrain	Tributary	319,994	Max WS	804.40	4375.90	4396.50		4396.51	0.000013	0.69	1230.64	129.60	0.03
NTtruckeeDrain	Tributary	375,106	Max WS	661.42	4375.99	4396.51		4396.51	0.000009	0.57	1225.04	123.83	0.03
NTtruckeeDrain	Tributary	434,091	Max WS	484.83	4376.15	4396.51		4396.51	0.000006	0.44	1159.22	115.73	0.02
NTtruckeeDrain	Tributary	523			Lat Struct								
NTtruckeeDrain	Tributary	523,133	Max WS	197.46	4376.26	4396.52		4396.52	0.000001	0.18	1124.09	113.15	0.01
NTtruckeeDrain	Tributary	539			Lat Struct								
NTtruckeeDrain	Tributary	540,623	Max WS	191.02	4375.97	4396.52		4396.52	0.000001	0.16	1240.35	113.80	0.01
NTtruckeeDrain	Tributary	590			Culvert								
NTtruckeeDrain	Tributary	656,064	Max WS	191.02	4375.98	4396.58		4396.58	0.000001	0.18	1049.24	96.17	0.01
NTtruckeeDrain	Tributary	723,402	Max WS	175.75	4377.02	4396.58		4396.58	0.000001	0.19	969.83	107.65	0.01
NTtruckeeDrain	Tributary	812,551	Max WS	154.22	4377.22	4396.58		4396.58	0.000001	0.17	956.39	107.24	0.01
NTtruckeeDrain	Tributary	922,250	Max WS	130.18	4377.39	4396.58		4396.58	0.000001	0.15	914.94	91.28	0.01
NTtruckeeDrain	Tributary	1044,111	Max WS	103.65	4377.68	4396.58		4396.58	0.000000	0.11	938.82	98.84	0.01
NTtruckeeDrain	Tributary	1126,612	Max WS	88.30	4377.82	4396.58		4396.58	0.000000	0.09	1049.40	119.88	0.00
NTtruckeeDrain	Tributary	1207,861	Max WS	70.31	4377.98	4396.58		4396.58	0.000000	0.08	971.24	97.89	0.00
NTtruckeeDrain	Tributary	1311,404	Max WS	51.55	4378.21	4396.58		4396.58	0.000000	0.04	1288.62	122.00	0.00
NTtruckeeDrain	Tributary	1383			Lat Struct								
NTtruckeeDrain	Tributary	1384			Lat Struct								
NTtruckeeDrain	Tributary	1385,576	Max WS	42.72	4377.59	4396.58		4396.58	0.000000	0.03	1495.91	122.12	0.00
NTtruckeeDrain	Tributary	1422			Culvert								
NTtruckeeDrain	Tributary	1465,880	Max WS	42.91	4377.58	4396.59		4396.59	0.000000	0.03	1370.13	115.92	0.00
NTtruckeeDrain	Tributary	1573,275	Max WS	67.81	4378.00	4396.59		4396.59	0.000000	0.06	1303.94	138.09	0.00
NTtruckeeDrain	Tributary	1686,195	Max WS	91.76	4378.41	4396.59		4396.59	0.000000	0.09	1142.63	118.15	0.00
NTtruckeeDrain	Tributary	1814,655	Max WS	102.52	4378.62	4396.59		4396.59	0.000000	0.10	1143.27	119.88	0.01
NTtruckeeDrain	Tributary	1927,129	Max WS	103.99	4378.66	4396.59		4396.59	0.000000	0.09	1169.71	113.52	0.00
NTtruckeeDrain	Tributary	2028			Lat Struct								
NTtruckeeDrain	Tributary	2029,295	Max WS	119.20	4378.68	4396.59		4396.59	0.000000	0.11	1281.94	116.25	0.00
NTtruckeeDrain	Tributary	2155,553	Max WS	118.74	4378.84	4396.59		4396.59	0.000000	0.10	1381.76	111.25	0.00
NTtruckeeDrain	Tributary	2250,105	Max WS	114.57	4378.97	4396.59		4396.59	0.000000	0.10	1264.30	98.83	0.00
NTtruckeeDrain	Tributary	2357,439	Max WS	109.22	4379.05	4396.59		4396.59	0.000000	0.11	1066.66	93.19	0.01
NTtruckeeDrain	Tributary	2439,675	Max WS	104.01	4379.14	4396.59		4396.59	0.000000	0.10	1138.94	97.58	0.01
NTtruckeeDrain	Tributary	2524,351	Max WS	98.87	4379.12	4396.59		4396.59	0.000000	0.10	1113.83	95.19	0.00
NTtruckeeDrain	Tributary	2624,223	Max WS	93.09	4379.23	4396.59		4396.59	0.000000	0.10	1110.97	95.60	0.00
NTtruckeeDrain	Tributary	2740,825	Max WS	85.74	4379.38	4396.59		4396.59	0.000000	0.09	1072.13	97.18	0.00
NTtruckeeDrain	Tributary	2827,477	Max WS	80.82	4379.43	4396.59		4396.59	0.000000	0.09	963.91	82.14	0.00
NTtruckeeDrain	Tributary	2905,768	Max WS	76.18	4379.41	4396.59		4396.59	0.000000	0.10	930.26	81.28	0.00
NTtruckeeDrain	Tributary	2961			Lat Struct								
NTtruckeeDrain	Tributary	2992,043	Max WS	72.01	4379.48	4396.59		4396.59	0.000000	0.07	1143.36	109.30	0.00
NTtruckeeDrain	Tributary	3010,569	Max WS	72.05	4379.55	4396.59		4396.59	0.000000	0.09	1006.55	93.61	0.00
NTtruckeeDrain	Tributary	3059,291	Max WS	71.94	4379.52	4396.59		4396.59	0.000000	0.08	1038.98	94.49	0.00
NTtruckeeDrain	Tributary	3100			Bridge								
NTtruckeeDrain	Tributary	3145,065	Max WS	71.94	4379.58	4396.62	4380.44	4396.62	0.000000	0.09	842.97	88.68	0.00
NTtruckeeDrain	Tributary	3188,225	Max WS	71.97	4381.11	4396.62		4396.62	0.000000	0.13	555.25	86.56	0.01
NTtruckeeDrain	Tributary	3298			Culvert								
NTtruckeeDrain	Tributary	3406,889	Max WS	71.81	4381.87	4396.68		4396.68	0.000000	0.13	584.56	65.93	0.01
NTtruckeeDrain	Tributary	3505,524	Max WS	71.88	4382.05	4396.68		4396.68	0.000001	0.13	579.80	81.06	0.01
NTtruckeeDrain	Tributary	3588,525	Max WS	71.95	4382.10	4396.68		4396.68	0.000001	0.14	529.54	85.98	0.01
NTtruckeeDrain	Tributary	3581,066	Max WS	136.32	4382.26	4396.68		4396.68	0.000002	0.25	583.27	90.91	0.02
NTtruckeeDrain	Tributary	3759,033	Max WS	225.79	4382.36	4396.68		4396.68	0.000006	0.39	577.62	79.24	0.02
NTtruckeeDrain	Tributary	3852,635	Max WS	346.73	4382.50	4396.67		4396.68	0.000010	0.57	651.37	86.77	0.03
NTtruckeeDrain	Tributary	3957,519	Max WS	493.11	4382.64	4396.66		4396.68	0.000025	0.92	591.55	79.87	0.05
NTtruckeeDrain	Tributary	4038,556	Max WS	611.20	4382.73	4396.65		4396.67	0.000035	1.09	595.42	72.79	0.06
NTtruckeeDrain	Tributary	4112			Lat Struct								
NTtruckeeDrain	Tributary	4113,962	Max WS	702.44	4382.86	4396.65		4396.67	0.000032	1.08	689.77	80.92	0.06
NTtruckeeDrain	Tributary	4218			Culvert								
NTtruckeeDrain	Tributary	4219,063	Max WS	703.49	4382.94	4396.66		4396.67	0.000043	1.28	593.27	61.78	0.07
NTtruckeeDrain	Tributary	4295,627	Max WS	622.53	4383.09	4396.66		4396.68	0.000008	1.03	637.87	68.81	0.06
NTtruckeeDrain	Tributary	4410			Lat Struct								
NTtruckeeDrain	Tributary	4411,208	Max WS	556.40	4383.18	4396.67		4396.68	0.000006	0.87	666.10	79.98	0.05
NTtruckeeDrain	Tributary	4547,564	Max WS	528.79	4383.35	4396.67		4396.68	0.000004	0.69	771.31	85.25	0.04
NTtruckeeDrain	Tributary	4660,862	Max WS	515.71	4383.49	4396.67		4396.68	0.000007	0.86	618.89	116.49	0.05
NTtruckeeDrain	Tributary	4793,775	Max WS	508.69	4383.49	4396.67		4396.68	0.000010	0.94	549.35	109.54	0.06
NTtruckeeDrain	Tributary	4888,770	Max WS	504.03	4383.73	4396.67		4396.69	0.000008	0.90	574.79	99.66	0.06
NTtruckeeDrain	Tributary	5021,206	Max WS	495.89	4383.90	4396.68		4396.69	0.000006	0.81	631.94	100.53	0.05
NTtruckeeDrain	Tributary	5158			Lat Struct								
NTtruckeeDrain	Tributary	5159,651	Max WS	488.08	4384.09	4396.68		4396.69	0.000008	0.92	575.78	90.86	0.05
NTtruckeeDrain	Tributary	5270,003	Max WS	484.18	4384.09	4396.68		4396.69	0.000006	0.89	735.24	141.07	0.05
NTtruckeeDrain	Tributary	5396,945	Max WS	480.45	4384.46	4396.68		4396.69	0.000008	0.95	652.84	114.89	0.06
NTtruckeeDrain	Tributary	5509,261	Max WS	479.00	4384.58	4396.68		4396.69	0.000006	0.88	713.07	124.33	0.05
NTtruckeeDrain	Tributary	5633,260	Max WS	483.18	4384.62	4396.68		4396.69	0.000020	0.80	724.51	132.45	0.05
NTtruckeeDrain	Tributary	5773,892	Max WS	485.30	4384.99	4396.68		4396.70	0.000028	0.87	622.51	119.97	0.05
NTtruckeeDrain	Tributary	5914,636	Max WS	508.60	4385.04	4396.69		4396.70	0.000032	0.93	611.26	121.06	0.06
NTtruckeeDrain	Tributary	6072,075	Max WS	554.60	4385.23	4396.69		4396.70	0.000033	0.93	655.40	126.55	0.06

HEC-RAS Plan: SA dev-south Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl. (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
NTrockeeDrain	Tributary	6248.920	Max WS	612.01	4385.51	4396.69		4396.71	0.000068	1.18	577.16	128.09	0.08
NTrockeeDrain	Tributary	6418			Lat Struct								
NTrockeeDrain	Tributary	6419			Lat Struct								
NTrockeeDrain	Tributary	6420.515	Max WS	638.43	4385.56	4396.69		4396.72	0.000091	1.46	442.16	81.99	0.09
NTrockeeDrain	Tributary	6479			Culvert								
NTrockeeDrain	Tributary	6543.668	Max WS	638.79	4385.77	4396.91		4396.93	0.000041	1.04	650.41	118.02	0.06
NTrockeeDrain	Tributary	6649.255	Max WS	638.91	4385.97	4396.91		4396.93	0.000079	1.13	583.74	104.03	0.09
NTrockeeDrain	Tributary	6741.775	Max WS	639.14	4386.08	4396.92		4396.94	0.000093	1.24	521.13	119.90	0.09
NTrockeeDrain	Tributary	6869.778	Max WS	663.89	4386.27	4396.92		4396.95	0.000087	1.28	532.31	111.28	0.09
NTrockeeDrain	Tributary	7045.650	Max WS	682.01	4386.47	4396.94		4396.96	0.000081	1.25	552.53	113.55	0.09
NTrockeeDrain	Tributary	7155.738	Max WS	682.34	4386.62	4396.95		4396.97	0.000077	1.23	564.76	116.08	0.09
NTrockeeDrain	Tributary	7279.831	Max WS	682.34	4386.82	4396.96		4396.98	0.000068	1.22	557.89	99.83	0.09
NTrockeeDrain	Tributary	7413.038	Max WS	682.49	4386.94	4396.97		4396.99	0.000092	1.22	566.31	136.54	0.09
NTrockeeDrain	Tributary	7574.842	Max WS	682.49	4387.13	4396.99		4397.01	0.000089	1.19	586.97	133.49	0.09
NTrockeeDrain	Tributary	7733.466	Max WS	682.18	4387.29	4397.00		4397.02	0.000085	1.22	589.20	109.65	0.09
NTrockeeDrain	Tributary	7922.604	Max WS	682.51	4387.45	4397.01		4397.04	0.000095	1.31	525.70	101.83	0.10
NTrockeeDrain	Tributary	8120			Lat Struct								
NTrockeeDrain	Tributary	8121			Lat Struct								
NTrockeeDrain	Tributary	8122.300	Max WS	682.28	4387.79	4397.03		4397.06	0.000101	1.35	518.88	120.13	0.10
NTrockeeDrain	Tributary	8313.991	Max WS	684.97	4388.06	4397.05		4397.08	0.000082	1.18	612.26	138.26	0.09
NTrockeeDrain	Tributary	8453.293	Max WS	699.65	4388.26	4397.06		4397.09	0.000088	1.25	609.72	153.47	0.09
NTrockeeDrain	Tributary	8612.691	Max WS	717.86	4388.35	4397.07		4397.11	0.000184	1.54	464.96	103.16	0.13
NTrockeeDrain	Tributary	8857.987	Max WS	1049.86	4388.73	4397.16		4397.25	0.000497	2.42	433.99	102.99	0.21
NTrockeeDrain	Tributary	9008.538	Max WS	1049.81	4388.86	4397.23		4397.33	0.000546	2.54	413.60	98.26	0.22
NTrockeeDrain	Tributary	9124.049	Max WS	1050.60	4388.95	4397.29		4397.39	0.000557	2.56	411.19	98.16	0.22
NTrockeeDrain	Tributary	9257.442	Max WS	1050.44	4389.09	4397.35		4397.47	0.000591	2.74	383.66	85.78	0.23
NTrockeeDrain	Tributary	9416			Lat Struct								
NTrockeeDrain	Tributary	9417			Lat Struct								
NTrockeeDrain	Tributary	9418.609	Max WS	1060.59	4389.36	4397.46		4397.53	0.000228	2.18	485.88	152.40	0.15
NTrockeeDrain	Tributary	9523			Culvert								
NTrockeeDrain	Tributary	9609.739	Max WS	1063.06	4389.14	4397.86		4397.95	0.000272	2.43	438.08	65.29	0.16
NTrockeeDrain	Tributary	9755.691	Max WS	1064.09	4389.68	4397.92		4398.02	0.000718	2.52	422.13	124.85	0.24
NTrockeeDrain	Tributary	9876.722	Max WS	1065.21	4389.91	4398.01		4398.11	0.000864	2.63	405.08	129.19	0.26
NTrockeeDrain	Tributary	9970.661	Max WS	1065.32	4389.91	4398.07		4398.19	0.000826	2.77	384.55	109.63	0.26
NTrockeeDrain	Tributary	10060.93	Max WS	1066.49	4389.97	4398.15		4398.26	0.000627	2.66	400.71	94.41	0.23
NTrockeeDrain	Tributary	10150			Culvert								
NTrockeeDrain	Tributary	10224.98	Max WS	1066.48	4390.29	4398.34		4398.50	0.000718	3.16	337.64	64.81	0.24
NTrockeeDrain	Tributary	10249.67	Max WS	1066.49	4390.41	4398.33		4398.52	0.000966	3.48	306.69	68.40	0.29
NTrockeeDrain	Tributary	10316.94	Max WS	1066.63	4390.51	4398.38		4398.60	0.001240	3.79	281.58	67.26	0.33
NTrockeeDrain	Tributary	10403.03	Max WS	1067.64	4390.71	4398.56		4398.69	0.000950	2.94	362.92	105.25	0.28
NTrockeeDrain	Tributary	10586.82	Max WS	1068.48	4391.00	4398.72		4398.88	0.001019	3.14	340.68	94.37	0.29
NTrockeeDrain	Tributary	10757.07	Max WS	1069.22	4391.32	4398.92		4399.00	0.000502	2.35	455.25	115.77	0.21
NTrockeeDrain	Tributary	10953.31	Max WS	1070.50	4391.71	4399.03		4399.12	0.000731	2.49	429.21	132.47	0.24
NTrockeeDrain	Tributary	11153.09	Max WS	1070.73	4391.95	4399.15		4399.30	0.001057	3.14	340.61	97.02	0.30
NTrockeeDrain	Tributary	11303.18	Max WS	1070.72	4392.09	4399.29		4399.46	0.001130	3.33	321.94	87.72	0.31
NTrockeeDrain	Tributary	11493.21	Max WS	1071.30	4392.30	4399.49		4399.66	0.000984	3.38	316.77	75.71	0.29
NTrockeeDrain	Tributary	11682.43	Max WS	1071.31	4392.80	4399.66		4399.87	0.001174	3.62	296.27	73.53	0.32
NTrockeeDrain	Tributary	11844.90	Max WS	1071.72	4393.48	4399.84		4400.06	0.001225	3.74	286.24	69.73	0.33
NTrockeeDrain	Tributary	11980.38	Max WS	1072.16	4393.60	4400.01		4400.23	0.001206	3.68	291.28	72.02	0.32
NTrockeeDrain	Tributary	12155.32	Max WS	1072.98	4393.95	4400.22		4400.47	0.001549	3.96	270.92	71.71	0.36
NTrockeeDrain	Tributary	12362.30	Max WS	1074.16	4394.39	4400.57		4400.82	0.001953	4.03	266.34	82.63	0.40
NTrockeeDrain	Tributary	12585.95	Max WS	1077.07	4394.78	4401.00		4401.14	0.000904	3.03	355.33	95.48	0.28
NTrockeeDrain	Tributary	12752.35	Max WS	1077.43	4394.97	4401.14		4401.36	0.001652	3.75	287.14	87.99	0.37
NTrockeeDrain	Tributary	12836.48	Max WS	1077.40	4395.24	4401.29		4401.47	0.001034	3.40	316.42	78.73	0.30
NTrockeeDrain	Tributary	12929.29	Max WS	1077.38	4395.40	4401.35		4401.59	0.001595	3.97	271.20	74.27	0.37
NTrockeeDrain	Tributary	13020.16	Max WS	1077.90	4395.60	4401.48		4401.74	0.001702	4.09	263.27	72.25	0.38
NTrockeeDrain	Tributary	13127.54	Max WS	1078.19	4395.80	4401.62		4401.95	0.002256	4.60	234.31	66.51	0.43
NTrockeeDrain	Tributary	13259.96	Max WS	1078.27	4396.00	4401.87		4402.28	0.002662	5.08	212.14	58.28	0.47
NTrockeeDrain	Tributary	13328.54	Max WS	1078.26	4396.18	4402.10		4402.43	0.001928	4.83	232.79	57.59	0.41
SteamBoatCr	Lower	170.044	Max WS	6117.72	4371.85	4396.14		4396.38	0.000230	3.91	1576.66	109.17	0.18
SteamBoatCr	Lower	194.285	Max WS	5908.63	4372.89	4396.14		4396.40	0.000263	4.09	1453.71	101.06	0.19
SteamBoatCr	Lower	225.667	Max WS	5553.81	4373.22	4396.22		4396.44	0.000208	3.74	1496.55	98.66	0.17
SteamBoatCr	Lower	272.744	Max WS	5086.14	4373.65	4396.30		4396.48	0.000164	3.41	1508.83	94.80	0.15
SteamBoatCr	Lower	311.558	Max WS	4733.50	4373.93	4396.34		4396.51	0.000169	3.31	1452.50	101.24	0.15
SteamBoatCr	Lower	352.580	Max WS	4394.30	4373.87	4396.39		4396.54	0.000159	3.14	1418.10	102.37	0.15
SteamBoatCr	Lower	402.589	Max WS	4054.19	4373.49	4396.44		4396.57	0.000148	2.97	1391.90	102.68	0.14
SteamBoatCr	Lower	444.855	Max WS	3775.55	4373.55	4396.47		4396.60	0.000144	2.90	1316.65	97.92	0.14
SteamBoatCr	Lower	489.007	Max WS	3535.01	4373.49	4396.49		4396.62	0.000145	2.87	1251.73	95.38	0.14
SteamBoatCr	Lower	531.346	Max WS	3339.13	4373.38	4396.54		4396.64	0.000095	2.47	1371.95	96.04	0.11
SteamBoatCr	Lower	578.721	Max WS	3209.73	4373.33	4396.59		4396.65	0.000051	1.96	1661.07	100.61	0.08
SteamBoatCr	Lower	618.507	Max WS	3134.73	4373.22	4396.59		4396.65	0.000051	1.96	1617.79	97.45	0.08
SteamBoatCr	Lower	656.014	Max WS	3058.25	4373.18	4396.60		4396.66	0.000047	1.90	1634.68	96.51	0.08
SteamBoatCr	Lower	675.197	Max WS	3016.38	4373.27	4396.61		4396.66	0.000048	1.81	1691.93	112.24	0.08
SteamBoatCr	Lower	696.644	Max WS	2975.65	4373.00	4396.59		4396.66	0.000071	2.11	1424.71	98.98	0.10
SteamBoatCr	Lower	739.025	Max WS	2903.75	4373.12	4396.59		4396.67	0.000099	2.34	1326.79	114.83	0.11
SteamBoatCr	Lower	803.116	Max WS	2828.00	4374.07	4396.61		4396.68	0.000073	2.14	1382.19	108.36	0.10

HEC-RAS Plan: SA dev-south Profile: Max WS (Continued)

River	Reach	River Sta.	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SteamBoatCr	Lower	837.560	Max WS	2797.98	4374.90	4396.61		4396.68	0.000085	2.23	1369.64	119.11	0.10
SteamBoatCr	Lower	869	Lat Struct										
SteamBoatCr	Lower	870.947	Max WS	2780.68	4375.16	4396.62		4396.69	0.000083	2.11	1345.56	108.99	0.10
SteamBoatCr	Lower	913.873	Max WS	2769.22	4375.16	4396.62		4396.69	0.000095	2.09	1336.29	121.50	0.11
SteamBoatCr	Lower	947.483	Max WS	2754.79	4375.11	4396.61		4396.70	0.000104	2.37	1196.01	92.62	0.11
SteamBoatCr	Lower	985.015	Max WS	2715.13	4375.33	4396.60		4396.70	0.000120	2.55	1096.85	86.48	0.12
SteamBoatCr	Lower	1020.015	Max WS	2691.56	4375.55	4396.62		4396.71	0.000107	2.38	1162.19	94.60	0.12
SteamBoatCr	Lower	1061.007	Max WS	2683.91	4375.76	4396.62		4396.71	0.000108	2.48	1148.35	92.44	0.12
SteamBoatCr	Lower	1098.598	Max WS	2688.84	4375.85	4396.65		4396.72	0.000072	2.06	1450.78	134.78	0.10
SteamBoatCr	Lower	1128.101	Max WS	2710.15	4375.44	4396.65		4396.72	0.000083	2.20	1338.09	121.03	0.10
SteamBoatCr	Lower	1177.102	Max WS	2710.03	4375.38	4396.63		4396.72	0.000135	2.59	1161.11	115.04	0.13
SteamBoatCr	Lower	1221.705	Max WS	2710.08	4375.49	4396.63		4396.73	0.000140	2.66	1126.93	116.06	0.13
SteamBoatCr	Lower	1270.942	Max WS	2710.40	4375.82	4396.67		4396.73	0.000076	2.01	1387.98	129.88	0.10
SteamBoatCr	Lower	1338.197	Max WS	2710.30	4375.93	4396.68		4396.74	0.000084	2.00	1379.61	144.97	0.10
SteamBoatCr	Lower	1388.816	Max WS	2710.25	4376.25	4396.89		4396.74	0.000070	1.84	1488.04	152.86	0.10
SteamBoatCr	Lower	1430.836	Max WS	2710.10	4376.31	4396.70		4396.74	0.000089	1.69	1616.71	160.28	0.09
SteamBoatCr	Lower	1456.113	Max WS	2710.64	4376.42	4396.70		4396.75	0.000062	1.70	1605.21	154.73	0.09
SteamBoatCr	Lower	1491.787	Max WS	2710.51	4376.42	4396.70		4396.75	0.000062	1.68	1612.08	154.37	0.09
SteamBoatCr	Lower	1533.670	Max WS	2710.47	4376.58	4396.71		4396.75	0.000063	1.59	1709.32	167.71	0.08
SteamBoatCr	Lower	1571.944	Max WS	2710.11	4376.67	4396.71		4396.75	0.000051	1.60	1727.09	180.44	0.08
SteamBoatCr	Lower	1610	Lat Struct										
SteamBoatCr	Lower	1611.775	Max WS	2710.57	4376.76	4396.71		4396.75	0.000053	1.59	1730.75	178.02	0.08
SteamBoatCr	Lower	1650.082	Max WS	2710.16	4376.73	4396.71		4396.76	0.000058	1.66	1670.80	176.11	0.09
SteamBoatCr	Lower	1686.056	Max WS	2710.50	4376.72	4396.71		4396.76	0.000061	1.72	1626.63	171.26	0.09
SteamBoatCr	Lower	1725.015	Max WS	2710.23	4376.58	4396.71		4396.76	0.000067	1.80	1559.93	164.82	0.09
SteamBoatCr	Lower	1764.518	Max WS	2710.40	4376.64	4396.71		4396.76	0.000076	1.90	1498.83	173.36	0.10
SteamBoatCr	Lower	1811.719	Max WS	2710.34	4376.31	4396.71		4396.77	0.000078	1.96	1454.63	155.60	0.10
SteamBoatCr	Lower	1853.106	Max WS	2710.40	4376.21	4396.71		4396.77	0.000088	2.04	1410.51	157.51	0.11
SteamBoatCr	Lower	1876.472	Max WS	2711.51	4376.02	4396.71		4396.77	0.000080	2.08	1427.09	168.64	0.10
SteamBoatCr	Lower	1909.980	Max WS	2769.10	4375.89	4396.71		4396.78	0.000086	2.18	1463.88	170.24	0.11
SteamBoatCr	Lower	1944.241	Max WS	2851.01	4376.15	4396.70		4396.78	0.000100	2.37	1414.88	156.81	0.12
SteamBoatCr	Lower	1986.717	Max WS	2972.93	4378.45	4396.70		4396.77	0.000095	2.23	1512.76	162.85	0.11
SteamBoatCr	Lower	2030.680	Max WS	3122.01	4376.45	4396.71		4396.77	0.000075	2.10	1674.32	164.09	0.10
SteamBoatCr	Lower	2069.347	Max WS	3243.43	4376.59	4396.70		4396.77	0.000082	2.25	1613.89	154.11	0.11
SteamBoatCr	Lower	2112.440	Max WS	3345.26	4376.72	4396.66		4396.77	0.000121	2.75	1318.02	120.85	0.13
SteamBoatCr	Lower	2157.305	Max WS	3408.95	4376.85	4396.66		4396.77	0.000125	2.79	1326.29	123.01	0.13
SteamBoatCr	Lower	2200.879	Max WS	3453.76	4376.85	4396.65		4396.78	0.000144	2.92	1287.97	123.36	0.14
SteamBoatCr	Lower	2241.068	Max WS	3474.08	4376.85	4396.64		4396.78	0.000158	3.05	1242.02	120.20	0.15
SteamBoatCr	Lower	2280.799	Max WS	3482.87	4376.85	4396.64		4396.79	0.000167	3.18	1198.60	114.04	0.15
SteamBoatCr	Lower	2321.408	Max WS	3490.15	4376.85	4396.64		4396.80	0.000168	3.20	1192.55	113.01	0.15
SteamBoatCr	Lower	2358	Lat Struct										
SteamBoatCr	Lower	2359.917	Max WS	3511.56	4376.85	4396.65		4396.80	0.000161	3.17	1209.45	112.18	0.15
SteamBoatCr	Lower	2403.772	Max WS	3570.29	4376.40	4396.66		4396.80	0.000150	3.05	1281.00	119.91	0.14
SteamBoatCr	Lower	2449.652	Max WS	3660.72	4376.21	4396.68		4396.81	0.000139	3.14	1429.15	136.40	0.14
SteamBoatCr	Lower	2504.428	Max WS	3773.47	4375.83	4396.67		4396.81	0.000153	3.22	1447.64	140.44	0.14
SteamBoatCr	Lower	2554.089	Max WS	3887.04	4375.95	4396.67		4396.81	0.000157	3.25	1493.51	150.40	0.14
SteamBoatCr	Lower	2610.043	Max WS	4009.84	4375.82	4396.68		4396.81	0.000148	3.16	1595.32	163.72	0.14
SteamBoatCr	Lower	2669.902	Max WS	4164.90	4375.95	4396.70		4396.81	0.000121	2.85	1815.57	185.83	0.13
SteamBoatCr	Lower	2715.208	Max WS	4260.80	4376.53	4396.66		4396.81	0.000154	3.24	1543.36	160.31	0.15
SteamBoatCr	Lower	2760.717	Max WS	4302.08	4376.75	4396.64		4396.82	0.000215	3.60	1436.93	168.79	0.17
SteamBoatCr	Lower	2811.290	Max WS	4316.44	4377.07	4396.64		4396.84	0.000238	3.80	1451.56	169.09	0.18
SteamBoatCr	Lower	2863.930	Max WS	4351.47	4376.85	4396.65		4396.85	0.000222	3.81	1483.09	167.23	0.17
SteamBoatCr	Lower	2919.977	Max WS	4432.50	4376.72	4396.66		4396.86	0.000218	3.79	1521.96	169.25	0.16
SteamBoatCr	Lower	2984.158	Max WS	4507.51	4376.96	4396.65		4396.87	0.000268	4.07	1442.28	173.54	0.18
SteamBoatCr	Lower	3047.244	Max WS	4446.17	4377.16	4396.57		4396.92	0.000436	4.90	1115.39	173.03	0.23
SteamBoatCr	Lower	3109.126	Max WS	4345.70	4377.45	4396.62		4396.96	0.000463	4.93	1114.13	177.13	0.24
SteamBoatCr	Lower	3171	Lat Struct										
SteamBoatCr	Lower	3172.000	Max WS	4398.31	4377.35	4396.68		4396.97	0.000351	4.50	1212.00	177.97	0.21
SteamBoatCr	Lower	3566.178	Max WS	2861.17	4377.36	4396.92		4396.93	0.000018	1.17	4422.68	543.55	0.05
SteamBoatCr	Lower	3875.902	Max WS	2865.50	4376.78	4396.93		4396.93	0.000015	1.04	5417.71	718.73	0.04
SteamBoatCr	Lower	4023	Lat Struct										
SteamBoatCr	Lower	4024.010	Max WS	2854.81	4377.18	4396.91		4396.95	0.000057	1.75	2298.84	393.40	0.09
SteamBoatCr	Lower	4061	Bridge										
SteamBoatCr	Lower	4075.498	Max WS	2866.04	4377.23	4397.04	4382.37	4397.04	0.000008	0.76	7076.56	794.15	0.03
SteamBoatCr	Lower	4149.066	Max WS	2771.80	4377.10	4397.04		4397.04	0.000012	0.88	4754.38	484.37	0.04
SteamBoatCr	Lower	4216.902	Max WS	2684.60	4377.23	4397.04		4397.05	0.000013	0.97	4458.16	438.32	0.04
SteamBoatCr	Lower	4268.142	Max WS	2620.77	4377.45	4397.04		4397.05	0.000014	1.01	4232.75	437.47	0.04
SteamBoatCr	Lower	4317.378	Max WS	2553.43	4377.64	4397.04		4397.05	0.000014	1.03	3992.80	405.71	0.05
SteamBoatCr	Lower	4367.189	Max WS	2488.52	4377.41	4397.04		4397.05	0.000013	1.01	4008.80	386.19	0.04
SteamBoatCr	Lower	4410.447	Max WS	2434.82	4377.05	4397.04		4397.05	0.000011	0.92	4237.05	415.25	0.04
SteamBoatCr	Lower	4456.105	Max WS	2382.63	4376.53	4397.04		4397.05	0.000010	0.88	4384.67	421.26	0.04
SteamBoatCr	Lower	4500.090	Max WS	2341.20	4376.04	4397.05		4397.05	0.000009	0.85	4527.94	425.93	0.04
SteamBoatCr	Lower	4543.360	Max WS	2305.56	4376.45	4397.04		4397.05	0.000010	0.90	4193.27	405.03	0.04
SteamBoatCr	Lower	4585.215	Max WS	2269.93	4376.75	4397.05		4397.05	0.000011	0.92	4070.93	390.21	0.04
SteamBoatCr	Lower	4633.821	Max WS	2227.76	4376.95	4397.05		4397.05	0.000013	0.99	3692.64	363.86	0.04
SteamBoatCr	Lower	4677.849	Max WS	2192.51	4377.56	4397.04		4397.06	0.000016	1.10	3236.22	328.24	0.05

HEC-RAS Plan: SA dey-south Profile: Max WS (Continued)

HEC-RAS Plan: SA dev-south Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
SteamBoatCr	Lower	12921.66	Max WS	1660.42	4380.50	4397.10	4385.26	4397.19	0.000111	2.35	719.60	232.57	0.11
SteamBoatCr	Lower	12995.01	Max WS	1662.60	4381.00	4397.16		4397.18	0.000025	1.11	1931.82	328.59	0.06
SteamBoatCr	Lower	13069.79	Max WS	1779.80	4381.09	4397.17		4397.18	0.000009	0.73	2765.89	325.28	0.04
SteamBoatCr	Lower	13142.79	Max WS	1927.84	4381.13	4397.17		4397.17	0.000005	0.59	3694.31	392.10	0.03
SteamBoatCr	Lower	13212.23	Max WS	2055.33	4381.22	4397.17		4397.17	0.000004	0.53	4395.49	439.26	0.02
SteamBoatCr	Lower	13288.25	Max WS	2188.13	4381.30	4397.17		4397.17	0.000004	0.53	4309.43	346.29	0.02
SteamBoatCr	Lower	13381.56	Max WS	2359.57	4381.33	4397.17		4397.17	0.000003	0.48	5316.19	435.49	0.02
SteamBoatCr	Lower	13489											
SteamBoatCr	Lower	13489.18	Max WS	2544.40	4383.48	4397.17		4397.17	0.000006	0.57	4932.07	503.50	0.03
SteamBoatCr	Lower	13579.42	Max WS	2545.13	4381.72	4397.17		4397.17	0.000003	0.45	5971.39	538.34	0.02
SteamBoatCr	Upper	13630.60	Max WS	1726.87	4381.76	4397.17		4397.17	0.000003	0.45	4029.73	295.07	0.02
SteamBoatCr	Upper	13709.34	Max WS	1724.88	4381.88	4397.17		4397.17	0.000003	0.45	4075.19	309.18	0.02
SteamBoatCr	Upper	13773.89	Max WS	1710.35	4382.04	4397.17		4397.17	0.000002	0.40	4552.74	337.03	0.02
SteamBoatCr	Upper	13855.50	Max WS	1699.81	4382.07	4397.17		4397.17	0.000002	0.33	5376.84	390.74	0.02
SteamBoatCr	Upper	13956.74	Max WS	1692.90	4382.13	4397.17		4397.17	0.000003	0.42	4288.21	335.19	0.02
SteamBoatCr	Upper	14061.65	Max WS	1678.26	4382.39	4397.17		4397.17	0.000008	0.70	2543.98	204.00	0.03
SteamBoatCr	Upper	14143.03	Max WS	1642.58	4382.48	4397.16		4397.18	0.000018	1.04	1720.82	155.81	0.05
SteamBoatCr	Upper	14224											
SteamBoatCr	Upper	14225.22	Max WS	1606.18	4382.55	4397.17		4397.18	0.000016	0.94	1921.08	179.35	0.05
SteamBoatCr	Upper	14333.23	Max WS	1581.01	4382.71	4397.17		4397.18	0.000008	0.68	2649.58	241.01	0.03
SteamBoatCr	Upper	14419.30	Max WS	1577.93	4382.90	4397.18		4397.18	0.000006	0.59	3009.69	274.63	0.03
SteamBoatCr	Upper	14526											
SteamBoatCr	Upper	14527.17	Max WS	1571.75	4382.99	4397.18		4397.18	0.000004	0.60	3524.05	316.76	0.02
SteamBoatCr	Upper	14615.11	Max WS	1572.42	4383.15	4397.18		4397.18	0.000002	0.34	5128.05	437.39	0.02
SteamBoatCr	Upper	14702.45	Max WS	1572.50	4383.18	4397.18		4397.18	0.000001	0.19	8667.76	755.36	0.01
SteamBoatCr	Upper	14800.91	Max WS	1574.29	4383.40	4397.18		4397.18	0.000000	0.16	10129.92	903.11	0.01
SteamBoatCr	Upper	14869											
SteamBoatCr	Upper	14870.51	Max WS	1668.92	4383.45	4397.18		4397.18	0.000001	0.19	8815.10	1009.01	0.01
SteamBoatCr	Upper	14939.41	Max WS	1669.60	4383.59	4397.18		4397.18	0.000001	0.26	6661.90	933.38	0.01
SteamBoatCr	Upper	15136.44	Max WS	1563.95	4383.82	4397.18		4397.18	0.000005	0.50	4704.91	958.34	0.03
SteamBoatCr	Upper	15321.63	Max WS	1566.40	4384.07	4397.18		4397.18	0.000006	0.57	4060.65	879.03	0.03
SteamBoatCr	Upper	15497.00	Max WS	1566.45	4384.28	4397.18		4397.19	0.000008	0.63	4106.17	995.91	0.03
SteamBoatCr	Upper	15699											
SteamBoatCr	Upper	15700.20	Max WS	1569.22	4384.60	4397.18		4397.19	0.000003	0.39	5337.49	990.51	0.02
SteamBoatCr	Upper	15823.40	Max WS	1580.42	4384.81	4397.18		4397.19	0.000003	0.42	4672.00	984.76	0.02
SteamBoatCr	Upper	16010.99	Max WS	1589.85	4384.67	4397.18		4397.19	0.000003	0.40	5125.28	1010.56	0.02
SteamBoatCr	Upper	16196.10	Max WS	1601.47	4384.81	4397.18		4397.19	0.000003	0.42	4984.00	910.89	0.02
SteamBoatCr	Upper	16386.81	Max WS	1615.83	4384.70	4397.19		4397.19	0.000004	0.43	4776.76	870.01	0.02
SteamBoatCr	Upper	16529.29	Max WS	1630.18	4384.79	4397.19		4397.19	0.000003	0.39	5565.80	1148.04	0.02
SteamBoatCr	Upper	16712.94	Max WS	1662.54	4385.00	4397.19		4397.19	0.000005	0.41	4858.38	1045.49	0.02
SteamBoatCr	Upper	16885.61	Max WS	1686.98	4385.20	4397.19		4397.19	0.000005	0.43	4583.89	799.68	0.02
SteamBoatCr	Upper	17000											
SteamBoatCr	Upper	17009.16	Max WS	1694.97	4385.20	4397.19		4397.19	0.000005	0.45	4275.80	752.54	0.03
SteamBoatCr	Upper	17235.56	Max WS	1684.35	4385.57	4397.19		4397.19	0.000005	0.48	4181.96	629.09	0.03
SteamBoatCr	Upper	17377.60	Max WS	1677.05	4386.01	4397.19		4397.19	0.000006	0.53	3563.66	470.07	0.03
SteamBoatCr	Upper	17469.81	Max WS	1667.23	4386.28	4397.19		4397.19	0.000007	0.54	3279.11	389.67	0.03
SteamBoatCr	Upper	17562.79	Max WS	1668.91	4386.69	4397.19		4397.19	0.000007	0.53	3283.25	359.39	0.03
SteamBoatCr	Upper	17638.41	Max WS	1662.01	4386.88	4397.19		4397.19	0.000007	0.54	3207.94	349.37	0.03
SteamBoatCr	Upper	17712.09	Max WS	1661.01	4388.08	4397.19		4397.19	0.000008	0.58	2963.08	321.11	0.03
SteamBoatCr	Upper	17779.24	Max WS	1660.11	4386.28	4397.19		4397.20	0.000009	0.61	2817.21	303.24	0.03
SteamBoatCr	Upper	17845.72	Max WS	1658.03	4386.00	4397.19		4397.20	0.000010	0.63	2708.45	297.18	0.04
SteamBoatCr	Upper	17942											
SteamBoatCr	Upper	17943.58	Max WS	1656.77	4385.70	4397.19		4397.20	0.000009	0.63	2732.18	290.59	0.04
SteamBoatCr	Upper	18092.36	Max WS	1654.88	4386.80	4397.19		4397.20	0.000014	0.73	2401.55	272.37	0.04
SteamBoatCr	Upper	18207.00	Max WS	1655.51	4386.78	4397.19		4397.20	0.000011	0.68	2597.61	305.90	0.04
SteamBoatCr	Upper	18312.85	Max WS	1656.89	4386.88	4397.19		4397.20	0.000010	0.62	2832.50	340.31	0.04
SteamBoatCr	Upper	18432.08	Max WS	1659.61	4386.89	4397.20		4397.20	0.000012	0.64	2783.61	358.81	0.04
SteamBoatCr	Upper	18549.50	Max WS	1659.31	4387.31	4397.19		4397.21	0.000028	1.03	2276.80	362.19	0.06
SteamBoatCr	Upper	18680.59	Max WS	1660.89	4387.30	4397.20		4397.21	0.000029	1.05	2294.06	364.04	0.06
SteamBoatCr	Upper	18801.33	Max WS	1675.19	4387.49	4397.20		4397.21	0.000027	1.00	2645.17	449.43	0.06
SteamBoatCr	Upper	18908.23	Max WS	1713.86	4387.61	4397.20		4397.22	0.000031	1.04	2634.42	484.05	0.06
SteamBoatCr	Upper	19035											
SteamBoatCr	Upper	19036.19	Max WS	1768.64	4387.71	4397.21		4397.22	0.000038	1.13	2410.83	459.86	0.07
SteamBoatCr	Upper	19148.18	Max WS	1784.72	4388.51	4397.21		4397.22	0.000037	1.03	5410.75	1951.64	0.06
SteamBoatCr	Upper	19221											
SteamBoatCr	Upper	19296.90	Max WS	1861.92	4388.60	4397.30		4397.31	0.000033	0.95	6315.40	2020.32	0.06
SteamBoatCr	Upper	19318.01	Max WS	1843.97	4388.80	4397.29		4397.32	0.000088	1.47	1910.66	2078.20	0.10
SteamBoatCr	Upper	19433.49	Max WS	1893.83	4388.90	4397.31		4397.32	0.000066	1.06	2315.19	1974.80	0.08
SteamBoatCr	Upper	19514.99	Max WS	1863.84	4389.00	4397.30		4397.34	0.000154	1.81	1540.04	1526.74	0.13
SteamBoatCr	Upper	19621.57	Max WS	1899.40	4389.17	4397.31		4397.37	0.000294	1.84	1034.19	1646.90	0.16
SteamBoatCr	Upper	19726.97	Max WS	1887.82	4389.46	4397.31		4397.40	0.000268	2.46	852.32	1832.82	0.17
SteamBoatCr	Upper	19752	Max WS	1953.15	4389.62	4397.36		4397.38	0.000225	1.96	3113.17	1910.64	0.15
SteamBoatCr	Upper	19760											
SteamBoatCr	Upper	19772.07	Max WS	4849.45	4389.62	4398.81	4392.97	4398.82	0.000105	1.56	13813.03	2536.94	0.10
SteamBoatCr	Upper	19846.7*	Max WS	4850.23	4389.80	4398.82	4398.82	0.000117	1.54	12979.97	2541.69	0.11	
SteamBoatCr	Upper	19921.4*	Max WS	4850.71	4389.98	4398.83	4398.83	0.000128	1.49	12151.14	2540.78	0.11	

HEC-RAS Plan: SA dev-south Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev. (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope: (ft/ft)	Vel Chnl (ft/s)	Flow Area: (sq ft)	Top Width (ft)	Froude # Chl
SteamBoatCr	Upper	19966.2*	Max WS	4852.28	4390.16	4398.84		4398.84	0.000140	1.44	11354.08	2483.12	0.11
SteamBoatCr	Upper	20070.9*	Max WS	4851.81	4390.34	4398.85		4398.85	0.000154	1.39	10568.71	2483.53	0.11
SteamBoatCr	Upper	20145.64	Max WS	4853.05	4390.52	4398.86		4398.86	0.000167	1.38	9790.64	2480.00	0.12
SteamBoatCr	Upper	20222.2*	Max WS	4851.92	4390.69	4398.87		4398.87	0.000175	1.37	9607.73	2441.52	0.12
SteamBoatCr	Upper	20298.8*	Max WS	4853.55	4390.87	4398.88		4398.88	0.000182	1.37	9432.36	2402.77	0.12
SteamBoatCr	Upper	20375.4*	Max WS	4853.00	4391.04	4398.89		4398.90	0.000189	1.36	9264.93	2363.83	0.12
SteamBoatCr	Upper	20452.01	Max WS	4853.15	4391.21	4398.90		4398.91	0.000197	1.36	9100.49	2324.31	0.12
SteamBoatCr	Upper	20522.8*	Max WS	4854.79	4391.38	4398.92		4398.92	0.000197	1.38	9035.66	2275.38	0.12
SteamBoatCr	Upper	20593.7*	Max WS	4855.72	4391.54	4398.93		4398.94	0.000197	1.39	8979.76	2231.92	0.12
SteamBoatCr	Upper	20664.66	Max WS	4854.36	4391.71	4398.95		4398.96	0.000196	1.36	8960.85	2201.28	0.12
SteamBoatCr	Upper	20733.4*	Max WS	4855.74	4391.81	4398.97		4398.97	0.000264	1.59	8161.18	2185.76	0.14
SteamBoatCr	Upper	20802.3*	Max WS	4857.12	4391.91	4398.99		4399.00	0.000316	1.76	7519.53	2047.91	0.15
SteamBoatCr	Upper	20871.17	Max WS	4855.73	4392.01	4399.02		4399.03	0.000372	1.93	7068.39	2009.85	0.17
SteamBoatCr	Upper	20952.9*	Max WS	4858.80	4392.09	4399.05		4399.06	0.000435	2.06	6654.49	1941.69	0.18
SteamBoatCr	Upper	21034.7*	Max WS	4860.29	4392.17	4399.08		4399.09	0.000499	2.17	6267.09	1866.59	0.19
SteamBoatCr	Upper	21116.5*	Max WS	4859.49	4392.24	4399.12		4399.13	0.000562	2.26	5912.88	1767.07	0.20
SteamBoatCr	Upper	21198.3*	Max WS	4860.83	4392.32	4399.16		4399.17	0.000621	2.33	5597.81	1667.39	0.21
SteamBoatCr	Upper	21280.14	Max WS	4864.91	4392.40	4399.20		4399.22	0.000693	2.43	5232.49	1595.17	0.21
SteamBoatCr	Upper	21331.4*	Max WS	4865.87	4392.51	4399.25		4399.27	0.000840	2.76	5002.62	1569.73	0.24
SteamBoatCr	Upper	21382.8*	Max WS	4866.62	4392.63	4399.31		4399.33	0.001009	3.16	4724.04	1584.49	0.27
SteamBoatCr	Upper	21434.20	Max WS	4867.32	4392.74	4399.38		4399.41	0.001188	3.61	4464.34	1601.71	0.30
SteamBoatCr	Upper	21505.8*	Max WS	4867.68	4392.87	4399.51		4399.56	0.001832	4.11	3930.73	1637.98	0.36
SteamBoatCr	Upper	21577.12	Max WS	4872.86	4393.00	4399.70		4399.78	0.002692	5.00	3492.56	1656.21	0.42
SteamBoatCr	Upper	21635.5*	Max WS	4873.92	4393.17	4399.87		4399.94	0.002586	4.64	3550.58	1704.26	0.43
SteamBoatCr	Upper	21693.9*	Max WS	4874.35	4393.34	4400.02		4400.10	0.002334	4.58	3610.08	1738.85	0.43
SteamBoatCr	Upper	21752.38	Max WS	4874.83	4393.51	4400.15		4400.25	0.002058	4.71	3658.89	1754.56	0.42
SteamBoatCr	Upper	21829.6*	Max WS	4874.67	4393.70	4400.31		4400.40	0.002568	4.91	3522.63	1773.68	0.46
SteamBoatCr	Upper	21906.9*	Max WS	4875.75	4393.89	4400.50		4400.59	0.002895	5.19	3457.30	1769.16	0.48
SteamBoatCr	Upper	21984.17	Max WS	4876.33	4394.08	4400.71		4400.79	0.003080	5.55	3458.26	1801.75	0.48
SteamBoatCr	Upper	22057.1*	Max WS	4877.47	4394.46	4400.90		4400.97	0.002928	5.14	3583.94	1866.42	0.47
SteamBoatCr	Upper	22130.0*	Max WS	4877.40	4394.83	4401.08		4401.14	0.002640	4.71	3748.05	1902.88	0.45
SteamBoatCr	Upper	22202.9*	Max WS	4877.82	4395.21	4401.24		4401.30	0.002348	4.40	3906.04	1940.07	0.43
SteamBoatCr	Upper	22275.93	Max WS	4878.55	4395.59	4401.39		4401.44	0.002104	4.18	4077.16	1982.85	0.41
SteamBoatCr	Upper	22363.5*	Max WS	4878.99	4395.65	4401.54		4401.68	0.002105	4.20	4083.03	1995.58	0.41
SteamBoatCr	Upper	22451.1*	Max WS	4879.10	4395.71	4401.68		4401.73	0.002101	4.21	4091.46	2007.19	0.41
SteamBoatCr	Upper	22538.7*	Max WS	4878.32	4395.77	4401.83		4401.88	0.002078	4.21	4101.67	2012.75	0.40
SteamBoatCr	Upper	22626.4*	Max WS	4879.57	4395.83	4401.98		4402.02	0.002069	4.21	4113.33	2013.26	0.40
SteamBoatCr	Upper	22714.0*	Max WS	4879.02	4395.90	4402.12		4402.17	0.002069	4.23	4120.78	2018.94	0.40
SteamBoatCr	Upper	22801.6*	Max WS	4880.32	4395.96	4402.26		4402.31	0.002064	4.24	4124.89	2029.41	0.40
SteamBoatCr	Upper	22889.2*	Max WS	4881.17	4396.02	4402.40		4402.45	0.002054	4.25	4131.61	2029.72	0.40
SteamBoatCr	Upper	22976.87	Max WS	4881.46	4396.08	4402.53		4402.58	0.002040	4.25	4137.75	2026.04	0.40
Truckee	Lower	123.156	Max WS	21026.43	4366.38	4380.53	4374.76	4381.17	0.001022	6.58	3503.86	405.33	0.35
Truckee	Lower	198.520	Max WS	21027.12	4365.83	4380.05		4381.40	0.002777	9.49	2426.17	338.54	0.56
Truckee	Lower	407.494	Max WS	21025.73	4363.71	4380.53		4381.64	0.002217	8.47	2482.49	279.86	0.50
Truckee	Lower	616.469	Max WS	21026.03	4361.59	4381.22		4381.81	0.001160	6.30	3803.78	552.60	0.37
Truckee	Lower	769.794	Max WS	21026.66	4367.64	4380.93		4382.10	0.002125	8.66	2428.68	256.26	0.50
Truckee	Lower	945.448*	Max WS	21026.75	4367.36	4381.10		4382.50	0.002507	9.52	2209.35	229.13	0.54
Truckee	Lower	1121.10*	Max WS	21027.12	4367.08	4381.25		4382.98	0.002909	10.55	1992.82	197.52	0.59
Truckee	Lower	1296.75*	Max WS	21027.40	4366.81	4381.34		4383.54	0.003491	11.89	1769.00	166.91	0.64
Truckee	Lower	1472.411	Max WS	21027.70	4366.53	4381.23		4384.26	0.004745	13.97	1505.49	138.52	0.75
Truckee	Lower	1638.40*	Max WS	21027.47	4366.79	4381.99		4385.04	0.004702	14.02	1499.88	136.08	0.74
Truckee	Lower	1804.40*	Max WS	21027.67	4367.05	4382.99		4385.77	0.004003	13.38	1571.94	134.74	0.69
Truckee	Lower	1970.402	Max WS	21028.10	4367.31	4383.88		4386.33	0.002777	12.56	1674.27	133.45	0.62
Truckee	Lower	2095.32*	Max WS	21028.37	4367.30	4384.64		4386.64	0.002210	11.35	1853.50	146.67	0.56
Truckee	Lower	2220.24*	Max WS	21029.08	4367.29	4385.19		4386.89	0.001852	10.46	2009.59	158.20	0.52
Truckee	Lower	2345.16*	Max WS	21029.03	4367.27	4385.63		4387.11	0.001588	9.76	2155.88	171.36	0.48
Truckee	Lower	2470.082	Max WS	21029.23	4367.26	4386.00		4387.29	0.001322	9.12	2354.10	212.36	0.44
Truckee	Lower	2622.113*	Max WS	21028.67	4367.26	4386.28		4387.48	0.001154	8.83	2479.95	232.99	0.42
Truckee	Lower	2774.18*	Max WS	21028.82	4367.25	4386.52		4387.65	0.001030	8.60	2617.87	264.93	0.40
Truckee	Lower	2926.24*	Max WS	21028.95	4367.25	4386.73		4387.80	0.000935	8.40	2784.99	302.86	0.38
Truckee	Lower	3078.293	Max WS	21029.07	4367.25	4386.94		4387.94	0.000858	8.19	2980.65	322.42	0.36
Truckee	Lower	3209.10*	Max WS	21029.33	4367.63	4386.96		4388.06	0.000980	8.54	2787.78	321.31	0.38
Truckee	Lower	3339.90*	Max WS	21029.58	4368.00	4387.03		4388.20	0.001086	8.75	2642.91	319.24	0.40
Truckee	Lower	3470.71*	Max WS	21029.60	4368.38	4387.16		4388.34	0.001124	8.73	2578.09	301.49	0.41
Truckee	Lower	3601.522	Max WS	21029.72	4368.76	4387.35		4388.47	0.001091	8.54	2577.72	296.08	0.40
Truckee	Lower	3727.95*	Max WS	21030.05	4368.84	4387.40		4388.62	0.001205	8.87	2453.99	279.22	0.42
Truckee	Lower	3854.38*	Max WS	21029.94	4368.93	4387.47		4388.78	0.001336	9.22	2335.56	265.82	0.44
Truckee	Lower	3980.82*	Max WS	21030.23	4369.02	4387.55		4388.96	0.001433	9.54	2235.50	244.07	0.46
Truckee	Lower	4107.256	Max WS	21029.53	4369.10	4387.66		4389.14	0.001495	9.78	2164.80	206.53	0.46
Truckee	Lower	4273.28*	Max WS	21029.63	4368.98	4387.86		4389.39	0.001487	9.92	2142.37	206.28	0.47
Truckee	Lower	4439.31*	Max WS	21029.69	4368.87	4388.08		4389.64	0.001461	10.02	2127.18	200.74	0.46
Truckee	Lower	4605.342	Max WS	21029.99	4368.75	4388.30		4389.88	0.001434	10.08	2116.96	192.24	0.46
Truckee	Lower	4731.37*	Max WS	21030.04	4368.79	4388.44		4390.06	0.001501	10.24	2093.70	185.18	0.47
Truckee	Lower	4857.39*	Max WS	21030.20	4368.83	4388.62		4390.25	0.001521	10.27	2098.22	183.39	0.47
Truckee	Lower	4983.42*	Max WS	21030.40	4368.87								

HEC-RAS Plan: SA dev-south Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Lower	5241.07*	Max WS	21030.53	4369.49	4389.20		4390.81	0.001581	10.20	2061.08	146.61	0.48
Truckee	Lower	5372.68*	Max WS	21030.84	4370.06	4389.43		4391.02	0.001624	10.15	2072.67	151.18	0.48
Truckee	Lower	5504.302	Max WS	21030.86	4370.64	4389.68		4391.24	0.001649	10.02	2098.26	156.72	0.48
Truckee	Lower	5616.15*	Max WS	21030.39	4370.38	4389.06		4391.40	0.001329	9.30	2261.37	162.91	0.44
Truckee	Lower	5728.00*	Max WS	21030.88	4370.13	4390.39		4391.54	0.001044	8.61	2443.14	165.61	0.39
Truckee	Lower	5839.856	Max WS	21030.62	4369.87	4390.66		4391.64	0.000802	7.96	2663.96	177.66	0.35
Truckee	Lower	6033.843	Max WS	21030.67	4370.02	4390.89		4391.66	0.000674	7.10	3160.92	228.71	0.30
Truckee	Lower	6088.776	Max WS	21030.30	4370.12	4390.73		4391.70	0.000699	7.92	2764.80	185.15	0.34
Truckee	Lower	6216.105	Max WS	21031.19	4370.07	4390.65		4391.81	0.000864	8.74	2563.24	180.25	0.37
Truckee	Lower	6327.249	Max WS	21031.22	4370.07	4390.50		4391.96	0.001129	9.91	2346.55	174.24	0.42
Truckee	Lower	6489.055	Max WS	21031.17	4370.16	4390.43		4392.19	0.001356	10.83	2150.70	167.40	0.46
Truckee	Lower	6619.957	Max WS	21031.33	4370.08	4390.70		4392.34	0.001239	10.38	2186.74	166.46	0.44
Truckee	Lower	6682.363	Max WS	21031.32	4370.05	4390.78		4392.43	0.001271	10.49	2260.22	194.83	0.45
Truckee	Lower	6735.577	Max WS	21031.18	4370.10	4390.97		4392.48	0.001175	10.00	2325.42	191.82	0.43
Truckee	Lower	6812.174	Max WS	21031.50	4370.05	4391.02		4392.61	0.001217	10.53	2448.33	215.48	0.43
Truckee	Lower	6887.051	Max WS	21031.46	4370.20	4391.50		4392.59	0.000760	8.59	2743.52	192.82	0.35
Truckee	Lower	6976.285	Max WS	21030.97	4370.20	4391.41		4392.67	0.000864	9.14	2497.29	168.33	0.37
Truckee	Lower	7131.793	Max WS	21030.66	4370.20	4391.18		4392.85	0.001556	10.39	2024.73	136.63	0.48
Truckee	Lower	7258.546	Max WS	21031.57	4370.21	4392.16		4392.96	0.000641	7.20	2944.98	196.08	0.32
Truckee	Lower	7406.445	Max WS	21030.93	4370.23	4392.38		4393.05	0.000545	6.56	3470.47	282.58	0.28
Truckee	Lower	7511.357	Max WS	21030.86	4370.24	4392.40		4393.12	0.000570	6.84	3787.30	372.45	0.28
Truckee	Lower	7664.775	Max WS	21030.87	4370.25	4392.43		4393.23	0.000643	7.23	3656.90	373.43	0.30
Truckee	Lower	7820.225	Max WS	21031.20	4370.26	4392.69		4393.29	0.000646	6.28	4056.97	387.85	0.25
Truckee	Lower	7961.973	Max WS	21031.42	4370.27	4392.72		4393.41	0.000771	6.71	3946.24	376.75	0.28
Truckee	Lower	8090.012	Max WS	21032.16	4370.29	4392.83		4393.51	0.000739	6.68	4286.79	464.44	0.27
Truckee	Lower	8228.509	Max WS	21031.46	4370.29	4392.89		4393.65	0.000886	7.19	4466.97	630.62	0.30
Truckee	Lower	8388.340	Max WS	21032.33	4370.33	4393.03		4393.80	0.000862	7.27	4847.96	614.42	0.30
Truckee	Lower	8490.330	Max WS	21031.75	4370.40	4393.17		4393.85	0.000763	6.82	5015.70	628.81	0.28
Truckee	Lower	8617.348	Max WS	21031.81	4370.50	4393.33		4393.89	0.000655	6.19	5251.74	667.23	0.26
Truckee	Lower	8745.655	Max WS	21031.93	4370.61	4393.40		4393.98	0.000640	6.26	4797.74	695.12	0.26
Truckee	Lower	8898.097	Max WS	21032.23	4370.74	4393.51		4394.10	0.000686	6.51	4520.72	716.22	0.27
Truckee	Lower	9064.256	Max WS	21033.64	4370.88	4393.68		4394.20	0.000638	6.23	4808.02	748.95	0.26
Truckee	Lower	9124.953	Max WS	21033.17	4370.94	4393.67		4394.25	0.000662	6.43	4592.88	704.83	0.26
Truckee	Lower	9234.001	Max WS	21033.71	4371.04	4393.52		4394.37	0.000911	7.49	3420.51	522.83	0.31
Truckee	Lower	9385.354	Max WS	21033.46	4371.18	4393.79		4394.46	0.000739	6.75	4614.29	490.35	0.27
Truckee	Lower	9584.751	Max WS	21034.40	4371.38	4393.91		4394.63	0.000789	6.98	4554.22	550.19	0.28
Truckee	Lower	9756	Lat Struct										
Truckee	Lower	9759.033	Max WS	21034.79	4371.68	4394.07		4394.78	0.000918	7.01	4370.62	474.70	0.30
Truckee	Lower	9901.465	Max WS	21034.96	4371.55	4394.32		4394.81	0.000507	5.72	4801.36	435.71	0.23
Truckee	Lower	10054.85	Max WS	21034.79	4371.41	4394.39		4394.88	0.000505	5.70	4539.43	373.67	0.23
Truckee	Lower	10237.23	Max WS	21035.49	4371.18	4394.47		4394.97	0.000508	5.73	4064.20	322.30	0.23
Truckee	Lower	10411.34	Max WS	21036.08	4371.06	4394.48		4395.09	0.000620	6.39	4206.62	333.41	0.25
Truckee	Lower	10562.53	Max WS	21035.68	4371.23	4394.62		4395.17	0.000554	6.02	4137.62	313.40	0.24
Truckee	Lower	10738.99	Max WS	21036.12	4371.28	4394.65		4395.28	0.000709	6.42	3440.27	227.96	0.27
Truckee	Lower	10929.09	Max WS	21035.92	4371.10	4394.95		4395.38	0.000468	5.36	4202.28	297.67	0.22
Truckee	Lower	11083.70	Max WS	21036.97	4371.07	4395.08		4395.44	0.000339	4.91	4699.84	301.06	0.19
Truckee	Lower	11233	Lat Struct										
Truckee	Lower	11234.17	Max WS	21036.32	4371.29	4394.92		4395.57	0.000693	6.71	3768.80	301.32	0.27
Truckee	Lower	11383.49	Max WS	21036.21	4371.25	4395.04		4395.67	0.000664	6.62	3816.01	289.64	0.26
Truckee	Lower	11496.09	Max WS	21036.72	4371.13	4395.15		4395.73	0.000630	6.35	3788.38	242.66	0.25
Truckee	Lower	11617.76	Max WS	21036.50	4371.14	4395.11		4395.81	0.000750	6.86	3311.51	211.45	0.28
Truckee	Lower	11704.35	Max WS	21036.94	4371.18	4395.13		4395.88	0.000813	7.02	3171.38	203.22	0.29
Truckee	Lower	11819.83	Max WS	21036.57	4371.16	4395.19		4395.98	0.000862	7.18	3069.25	196.81	0.29
Truckee	Lower	11921.75	Max WS	21036.26	4371.16	4395.33		4396.06	0.000760	6.89	3190.52	194.43	0.28
Truckee	Lower	12052.52	Max WS	21036.43	4371.17	4395.44		4396.16	0.000784	6.85	3201.67	197.34	0.28
Truckee	Lower	12194.80	Max WS	21036.66	4371.00	4395.76		4396.23	0.000447	5.56	3882.74	199.73	0.21
Truckee	Lower	12289	Lat Struct										
Truckee	Lower	12290.45	Max WS	21036.78	4369.75	4395.83		4396.27	0.000406	6.37	4033.73	207.69	0.20
Truckee	Lower	12411.23	Max WS	21036.89	4370.97	4395.83		4396.33	0.000476	5.73	3824.74	210.80	0.22
Truckee	Lower	12558	Lat Struct										
Truckee	Lower	12559.40	Max WS	21036.85	4370.72	4395.99		4396.39	0.000381	5.07	4307.91	306.69	0.20
Truckee	Lower	12674.60	Max WS	21036.88	4371.11	4396.14		4396.42	0.000234	4.23	5112.55	298.61	0.17
Truckee	Middle	12793.06	Max WS	14919.17	4371.02	4396.14		4396.36	0.000158	3.83	4459.74	288.08	0.15
Truckee	Middle	12883.59	Max WS	13808.17	4371.08	4396.17		4396.40	0.000177	4.00	4039.61	270.07	0.16
Truckee	Middle	13012.33	Max WS	12637.91	4371.32	4396.15		4396.48	0.000266	4.71	2889.90	198.57	0.19
Truckee	Middle	13144.50	Max WS	11542.92	4371.56	4396.25		4396.57	0.000276	4.58	2650.79	184.75	0.19
Truckee	Middle	13260	Lat Struct										
Truckee	Middle	13261.42	Max WS	10719.25	4371.78	4396.39		4396.64	0.000227	4.02	2694.41	182.60	0.18
Truckee	Middle	13313.60	Max WS	10718.25	4371.86	4396.44		4396.65	0.000166	3.72	2958.75	180.18	0.16
Truckee	Upper	13390.04	Max WS	9030.61	4372.00	4396.44		4396.57	0.000106	2.98	3089.40	184.08	0.12
Truckee	Upper	13518.64	Max WS	8418.64	4372.24	4396.47		4396.61	0.000110	3.00	2910.42	183.77	0.13
Truckee	Upper	13690.82	Max WS	7856.26	4372.55	4396.52		4396.64	0.000128	2.88	2752.00	187.81	0.13
Truckee	Upper	13849.40	Max WS	7594.45	4372.75	4396.55		4396.67	0.000117	2.82	2712.90	180.16	0.13
Truckee	Upper	14023.34	Max WS	7152.44	4372.81	4396.58		4396.71	0.000113	2.79	2586.94	168.85	0.12
Truckee	Upper	14202.16	Max WS	7125.89	4372.87	4396.63		4396.72	0.000092	2.51	2846.31	182.74	0.11

HEC-RAS Plan: SA dev-south Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El. (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	14346.78	Max WS	7241.04	4372.92	4396.62		4396.74	0.000090	2.73	2759.22	180.30	0.11
Truckee	Upper	14544.98	Max WS	7308.72	4372.98	4396.63		4396.75	0.000103	2.84	2672.74	192.14	0.12
Truckee	Upper	14767.08	Max WS	7570.18	4373.05	4396.63		4396.77	0.000114	2.96	2618.14	168.85	0.13
Truckee	Upper	15056	Lat Struct										
Truckee	Upper	15057.88	Max WS	8121.18	4373.13	4396.65		4396.78	0.000106	2.95	2942.81	219.16	0.12
Truckee	Upper	15300.51	Max WS	8047.41	4373.19	4396.66		4396.81	0.000113	2.94	2839.68	197.03	0.13
Truckee	Upper	15528.35	Max WS	7458.61	4373.25	4396.72		4396.86	0.000114	2.98	2606.41	194.53	0.13
Truckee	Upper	15768	Lat Struct										
Truckee	Upper	15769.99	Max WS	7270.00	4373.08	4396.76		4396.89	0.000129	2.96	2467.41	162.80	0.13
Truckee	Upper	15920	Lat Struct										
Truckee	Upper	15921.59	Max WS	6567.97	4372.96	4396.84		4396.93	0.000081	2.35	2814.43	191.18	0.11
Truckee	Upper	16122.58	Max WS	5638.72	4372.87	4396.88		4396.97	0.000076	2.42	2411.34	157.21	0.10
Truckee	Upper	16306.12	Max WS	5212.39	4372.71	4396.94		4396.99	0.000044	1.88	2833.43	171.74	0.08
Truckee	Upper	16452.05	Max WS	5171.91	4372.50	4396.94		4397.00	0.000054	2.06	2584.14	163.95	0.09
Truckee	Upper	16620.83	Max WS	5135.47	4372.97	4396.94		4397.01	0.000078	2.20	2380.22	182.86	0.10
Truckee	Upper	16794.88	Max WS	5181.59	4373.41	4396.96		4397.02	0.000056	1.93	2684.51	184.93	0.09
Truckee	Upper	17030.21	Max WS	5396.53	4373.79	4396.98		4397.03	0.000042	1.87	2955.16	180.95	0.08
Truckee	Upper	17231	Lat Struct										
Truckee	Upper	17232.01	Max WS	5683.12	4373.87	4396.97		4397.04	0.000049	2.01	3070.90	238.27	0.08
Truckee	Upper	17433.06	Max WS	5820.95	4373.91	4396.97		4397.04	0.000058	2.18	2931.68	230.73	0.09
Truckee	Upper	17594	Lat Struct										
Truckee	Upper	17595.00	Max WS	6082.84	4373.92	4396.99		4397.04	0.000043	1.93	3295.50	213.35	0.08
Truckee	Upper	17774.81	Max WS	6315.83	4373.90	4396.98		4397.05	0.000061	2.20	3198.05	277.17	0.09
Truckee	Upper	17966.96	Max WS	6556.12	4373.85	4396.98		4397.06	0.000060	2.23	3064.82	210.42	0.09
Truckee	Upper	18117.31	Max WS	6665.34	4373.82	4396.97		4397.07	0.000081	2.46	2788.46	199.88	0.11
Truckee	Upper	18285	Lat Struct										
Truckee	Upper	18286.70	Max WS	6868.80	4374.02	4396.99		4397.07	0.000067	2.35	3159.76	249.19	0.10
Truckee	Upper	18488.74	Max WS	7172.50	4374.29	4397.00		4397.08	0.000063	2.24	3402.75	265.05	0.09
Truckee	Upper	18690.00	Max WS	7450.72	4374.58	4396.98		4397.09	0.000094	2.62	3002.61	246.93	0.11
Truckee	Upper	18915.19	Max WS	7844.54	4374.90	4396.98		4397.10	0.000126	2.82	2864.33	219.03	0.13
Truckee	Upper	19172	Lat Struct										
Truckee	Upper	19173.34	Max WS	8286.12	4375.30	4396.99		4397.12	0.000120	2.89	2936.41	216.22	0.13
Truckee	Upper	19428.21	Max WS	8516.44	4375.70	4396.99		4397.15	0.000168	3.27	2681.95	223.86	0.15
Truckee	Upper	19646.39	Max WS	8704.74	4376.06	4396.99		4397.18	0.000189	3.51	2522.66	186.48	0.16
Truckee	Upper	19800	Lat Struct										
Truckee	Upper	19871.73	Max WS	8707.43	4376.43	4397.02		4397.24	0.000260	3.84	2609.83	298.67	0.19
Truckee	Upper	20102.60	Max WS	8529.06	4376.84	4397.08		4397.31	0.000273	3.97	2490.36	283.08	0.19
Truckee	Upper	20349.62	Max WS	8699.96	4377.29	4397.09		4397.40	0.000366	4.56	2320.16	286.86	0.22
Truckee	Upper	20652.04	Max WS	9611.39	4377.85	4397.19		4397.43	0.000237	4.03	2801.56	269.20	0.18
Truckee	Upper	20878	Lat Struct										
Truckee	Upper	20879.99	Max WS	10239.14	4378.31	4397.10		4397.50	0.000431	5.18	2322.63	242.01	0.24
Truckee	Upper	21090	Lat Struct										
Truckee	Upper	21091.93	Max WS	10697.05	4378.69	4397.23		4397.54	0.000410	4.58	2584.68	285.97	0.23
Truckee	Upper	21263.33	Max WS	10859.70	4379.05	4397.33		4397.60	0.000335	4.19	2954.17	338.04	0.21
Truckee	Upper	21437	Lat Struct										
Truckee	Upper	21438.30	Max WS	10860.60	4379.43	4397.36		4397.68	0.000484	4.63	2848.83	446.84	0.25
Truckee	Upper	21650.04	Max WS	10947.05	4379.87	4397.45		4397.76	0.000374	4.54	2801.49	437.59	0.22
Truckee	Upper	21817.75	Max WS	11099.37	4380.22	4397.55		4397.81	0.000383	4.05	2757.17	270.70	0.22
Truckee	Upper	21974	Lat Struct										
Truckee	Upper	21975.48	Max WS	11916.04	4380.50	4397.49		4397.83	0.000416	4.69	2547.17	212.53	0.24
Truckee	Upper	22100	Lat Struct										
Truckee	Upper	22176.73	Max WS	11945.13	4380.68	4397.41		4397.94	0.000723	5.88	2098.68	224.49	0.30
Truckee	Upper	22334	Lat Struct										
Truckee	Upper	22335.52	Max WS	11862.90	4381.00	4397.38		4398.11	0.001096	6.88	1819.86	220.51	0.37
Truckee	Upper	22503.45	Max WS	11804.54	4381.30	4397.65		4398.28	0.000878	6.37	1852.76	161.13	0.33
Truckee	Upper	22666	Lat Struct										
Truckee	Upper	22687	Lat Struct										
Truckee	Upper	22688.58	Max WS	11841.04	4381.60	4398.06		4398.40	0.000492	4.66	2575.65	257.75	0.25
Truckee	Upper	22944.66	Max WS	11941.73	4382.22	4398.10		4398.55	0.000544	5.66	2526.42	237.86	0.27
Truckee	Upper	23112.71	Max WS	12103.63	4382.48	4398.22		4398.62	0.000706	5.08	2394.89	262.49	0.29
Truckee	Upper	23262	Lat Struct										
Truckee	Upper	23263.74	Max WS	12192.95	4382.79	4398.14		4398.75	0.001054	6.28	1950.32	218.33	0.36
Truckee	Upper	23433.78	Max WS	12271.25	4383.09	4398.11		4398.95	0.001357	7.33	1678.39	180.08	0.41
Truckee	Upper	23608	Lat Struct										
Truckee	Upper	23609.90	Max WS	12426.71	4383.51	4398.68		4399.12	0.000627	5.33	2393.74	260.10	0.28
Truckee	Upper	23764.74	Max WS	13196.73	4383.78	4398.67		4399.20	0.000636	5.88	2363.28	221.57	0.29
Truckee	Upper	23902	Lat Struct										
Truckee	Upper	23903.66	Max WS	13780.89	4384.11	4398.57		4399.22	0.000810	6.52	2249.81	243.50	0.33
Truckee	Upper	24094.85	Max WS	14035.31	4384.41	4398.28		4399.42	0.001570	8.61	1681.89	196.48	0.45
Truckee	Upper	24231	Lat Struct										
Truckee	Upper	24232.12	Max WS	14772.21	4384.69	4398.51		4399.66	0.001605	8.67	1845.41	229.64	0.45
Truckee	Upper	24373.14	Max WS	15088.50	4384.99	4398.66		4399.85	0.001828	8.02	1909.60	241.89	0.47
Truckee	Upper	24558.98	Max WS	15648.89	4385.29	4399.25		4400.09	0.001145	7.62	2474.77	316.37	0.38
Truckee	Upper	24749.13	Max WS	15860.57	4385.68	4399.66		4400.20	0.000658	6.03	3008.16	337.32	0.30
Truckee	Upper	24897.16	Max WS	15917.19	4385.87	4399.65		4400.32	0.000841	6.76	2710.15	285.24	0.34
Truckee	Upper	25043.05	Max WS	15935.78	4386.20	4399.11		4400.70	0.002346	10.37	1782.48	247.80	0.54

HEC-RAS Plan: SA dey-south Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnf (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	25319			Lat Struct								
Truckee	Upper	25320.47	Max WS	15983.39	4386.70	4400.29		4401.10	0.001245	7.21	2215.86	213.43	0.39
Truckee	Upper	25557.57	Max WS	15987.22	4387.21	4400.53		4401.40	0.001293	7.47	2148.06	209.30	0.40
Truckee	Upper	25685.79	Max WS	15972.12	4387.39	4400.31		4401.62	0.002145	9.19	1745.95	187.03	0.51
Truckee	Upper	25785			Lat Struct								
Truckee	Upper	25786			Lat Struct								
Truckee	Upper	25787.10	Max WS	15972.00	4387.64	4400.34		4401.89	0.003137	9.98	1599.85	190.34	0.61
Truckee	Upper	25800			Bridge								
Truckee	Upper	25935.87	Max WS	15987.58	4388.73	4400.86	4397.73	4402.50	0.002841	10.31	1608.57	212.26	0.59
Truckee	Upper	26056.23	Max WS	15379.37	4388.90	4400.75		4403.09	0.004359	12.28	1254.61	147.85	0.72
Truckee	Upper	26167.21	Max WS	15093.81	4389.06	4401.70		4403.58	0.003090	11.03	1386.98	152.66	0.61
Truckee	Upper	26319.22	Max WS	14916.21	4388.73	4402.62		4404.01	0.002093	9.50	1675.53	223.09	0.51
Truckee	Upper	26464			Lat Struct								
Truckee	Upper	26465.88	Max WS	14705.25	4388.66	4402.61		4404.45	0.003150	10.90	1394.26	200.26	0.62
Truckee	Upper	26588.41	Max WS	14602.77	4388.96	4403.40		4404.80	0.002535	9.48	1655.37	197.24	0.55
Truckee	Upper	26711.46	Max WS	14718.56	4388.03	4403.78		4405.04	0.001730	9.00	1644.15	159.10	0.47
Truckee	Upper	26853			Lat Struct								
Truckee	Upper	26854.46	Max WS	14839.30	4389.25	4403.59		4405.36	0.003068	10.70	1393.38	148.68	0.61
Truckee	Upper	27010			Lat Struct								
Truckee	Upper	27011.59	Max WS	15018.66	4390.45	4404.63		4405.69	0.001624	8.77	2167.84	273.82	0.45
Truckee	Upper	27150.44	Max WS	15510.47	4390.74	4404.92		4405.80	0.001329	7.86	2261.23	234.41	0.41
Truckee	Upper	27281			Lat Struct								
Truckee	Upper	27282.45	Max WS	15733.14	4390.83	4405.04		4405.93	0.001317	7.56	2080.48	192.24	0.41
Truckee	Upper	27427.44	Max WS	15827.80	4390.31	4405.16		4406.12	0.001539	7.88	2008.16	197.54	0.43
Truckee	Upper	27571.37	Max WS	15845.94	4391.53	4404.42		4406.62	0.003690	12.19	1436.79	165.09	0.67
Truckee	Upper	27678			Lat Struct								
Truckee	Upper	27679.10	Max WS	15844.44	4391.80	4404.30		4407.13	0.004936	13.76	1261.60	153.73	0.77
Truckee	Upper	27840.41	Max WS	15849.58	4391.73	4406.04		4407.60	0.002485	10.30	1741.26	204.65	0.55
Truckee	Upper	27953.75	Max WS	15910.82	4391.89	4406.50		4407.80	0.001983	9.38	1873.61	206.64	0.50
Truckee	Upper	28076			Lat Struct								
Truckee	Upper	28079.65	Max WS	16008.36	4392.21	4406.71		4408.02	0.002119	9.18	1762.51	199.35	0.51
Truckee	Upper	28333			Lat Struct								
Truckee	Upper	28334.18	Max WS	16324.70	4392.92	4407.28		4408.45	0.001694	8.71	1884.40	179.59	0.46
Truckee	Upper	28560			Lat Struct								
Truckee	Upper	28561.76	Max WS	16043.61	4393.85	4407.81		4408.86	0.001529	8.23	1948.89	181.61	0.44
Truckee	Upper	28777.22	Max WS	15908.52	4394.54	4408.23		4409.19	0.001405	7.89	2018.35	188.19	0.42
Truckee	Upper	28986.09	Max WS	15614.53	4394.76	4408.41		4409.59	0.001892	8.76	1885.40	216.14	0.49
Truckee	Upper	29163			Lat Struct								
Truckee	Upper	29164.29	Max WS	15870.13	4395.37	4408.75		4409.87	0.001644	8.56	1996.42	241.70	0.46
Truckee	Upper	29422.51	Max WS	16805.99	4395.58	4408.80		4410.34	0.003122	9.97	1697.96	208.57	0.60
Truckee	Upper	29634			Lat Struct								
Truckee	Upper	29635.26	Max WS	17204.38	4396.01	4409.22		4410.91	0.002751	10.53	1743.73	222.18	0.59
Truckee	Upper	29931.50	Max WS	18098.61	4396.44	4410.06		4411.48	0.002252	9.60	1958.42	227.98	0.53
Truckee	Upper	30210			Lat Struct								
Truckee	Upper	30211.71	Max WS	18390.57	4397.40	4410.52		4412.40	0.003724	11.66	1970.68	298.32	0.67
Truckee	Upper	30509.03	Max WS	18390.86	4397.79	4411.63		4413.32	0.002913	10.86	1974.42	245.44	0.60
Truckee	Upper	30788			Lat Struct								
Truckee	Upper	30789.09	Max WS	18416.60	4397.85	4412.50		4414.13	0.003411	10.26	1794.91	216.58	0.63
Truckee	Upper	31037.96	Max WS	18672.86	4398.21	4413.74		4414.71	0.001586	7.91	2366.93	245.25	0.44
Truckee	Upper	31273.71	Max WS	18986.64	4400.22	4413.91		4415.07	0.001617	8.73	2313.62	250.52	0.46
Truckee	Upper	31522			Lat Struct								
Truckee	Upper	31523.22	Max WS	18991.55	4401.01	4414.30		4415.49	0.001770	8.86	2286.45	261.26	0.48
Truckee	Upper	31795.06	Max WS	19035.61	4401.29	4414.42		4416.11	0.002751	10.49	1867.53	221.85	0.58
Truckee	Upper	31963.03	Max WS	19036.16	4401.58	4414.75		4416.64	0.003469	11.03	1755.07	219.63	0.65
Truckee	Upper	32100.13	Max WS	19035.84	4401.78	4415.16		4417.12	0.003399	11.28	1749.73	240.46	0.65
Truckee	Upper	32219			Lat Struct								
Truckee	Upper	32220			Lat Struct								
Truckee	Upper	32220.09	Max WS	19068.80	4401.83	4415.92		4417.43	0.002265	9.89	1970.98	216.18	0.53
Truckee	Upper	32300			Bridge								
Truckee	Upper	32323.85	Max WS	19069.06	4403.13	4416.30	4412.35	4417.83	0.002256	9.96	1946.48	210.60	0.54
Truckee	Upper	32391.38	Max WS	19068.40	4403.64	4416.81		4418.06	0.003596	12.06	1626.94	189.56	0.67
Truckee	Upper	32460.36	Max WS	18909.72	4403.96	4416.67		4418.27	0.002434	10.23	1944.29	233.19	0.56
Truckee	Upper	32566.20	Max WS	18727.94	4404.43	4417.33		4418.50	0.001772	8.89	2348.88	288.84	0.48
Truckee	Upper	32707.99	Max WS	18491.46	4405.04	4417.65		4418.81	0.001946	8.90	2446.49	360.83	0.49
Truckee	Upper	32851.30	Max WS	18367.53	4405.68	4417.69		4419.23	0.002958	10.22	2149.10	414.60	0.60
Truckee	Upper	32983			Lat Struct								
Truckee	Upper	32984.21	Max WS	18300.46	4406.26	4418.04		4419.65	0.003419	10.33	2022.66	435.92	0.64
Truckee	Upper	33141.24	Max WS	18360.90	4406.88	4419.12		4419.91	0.001399	7.48	3048.78	455.54	0.42
Truckee	Upper	33181.83	Max WS	18423.29	4407.51	4419.30		4420.20	0.001894	7.86	2739.28	438.20	0.48
Truckee	Upper	33477.26	Max WS	18423.34	4408.00	4419.07		4420.60	0.002854	9.93	1855.48	207.52	0.59
Truckee	Upper	33642			Lat Struct								
Truckee	Upper	33642.99	Max WS	18424.03	4409.14	4419.68		4421.06	0.002747	9.44	1990.74	459.08	0.57
Truckee	Upper	33812.80	Max WS	18424.79	4409.29	4419.83		4421.64	0.003762	10.81	1797.97	351.75	0.66
Truckee	Upper	33931			Lat Struct								
Truckee	Upper	33932.07	Max WS	18428.60	4409.08	4420.59		4422.03	0.003086	9.64	1949.99	262.62	0.60
Truckee	Upper	34046.91	Max WS	18431.66	4409.39	4420.33		4422.51	0.005129	11.86	1561.74	443.16	0.76

HEC-RAS Plan: SA dev-south Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	34238.54	Max WS	18462.00	4409.87	4421.69	4419.10	4423.30	0.003522	10.24	1972.59	704.46	0.64
Truckee	Upper	34453			Lat Struct								
Truckee	Upper	34454.76	Max WS	18661.96	4410.63	4422.21		4424.21	0.003771	11.77	2166.48	801.56	0.68
Truckee	Upper	34676.91	Max WS	19046.39	4410.29	4422.68		4424.97	0.004353	12.15	1567.81	568.71	0.72
Truckee	Upper	34935.32	Max WS	19051.35	4410.80	4423.46		4426.29	0.005802	13.51	1410.03	508.25	0.82
Truckee	Upper	35260			Lat Struct								
Truckee	Upper	35261.04	Max WS	19052.45	4411.25	4425.85		4427.65	0.002780	10.80	1887.12	715.31	0.59
Truckee	Upper	35351			Lat Struct								
Truckee	Upper	35352.36	Max WS	19051.57	4411.42	4426.06		4427.90	0.002522	11.01	1877.78	211.97	0.57
Truckee	Upper	35400			Bridge								
Truckee	Upper	35486.25	Max WS	19050.58	4411.57	4428.02	4422.19	4429.12	0.001294	8.68	2569.06	618.54	0.42
Truckee	Upper	35605.05	Max WS	19051.51	4411.78	4428.16		4429.23	0.001205	8.30	2312.75	576.18	0.40
Truckee	Upper	35730.91	Max WS	19052.18	4412.07	4428.14		4429.41	0.001687	9.04	2114.98	534.05	0.47
Truckee	Upper	35849			Lat Struct								
Truckee	Upper	35850			Lat Struct								
Truckee	Upper	35851.46	Max WS	19052.71	4413.29	4428.39		4429.62	0.001683	8.93	2190.50	568.11	0.47
Truckee	Upper	35919			Inl Struct								
Truckee	Upper	36059.71	Max WS	19051.08	4417.93	4431.30	4427.48	4432.35	0.001749	8.72	3037.54	578.20	0.47
Truckee	Upper	36209.78	Max WS	19076.43	4418.30	4430.67	4428.59	4433.01	0.003900	12.37	1756.00	477.09	0.69
Truckee	Upper	36391.32	Max WS	19226.42	4418.31	4432.06		4433.42	0.002285	9.92	2630.24	466.29	0.54
Truckee	Upper	36668			Lat Struct								
Truckee	Upper	36569.41	Max WS	19533.25	4418.08	4432.09		4433.92	0.003100	11.13	2116.23	377.99	0.62
Truckee	Upper	36725.76	Max WS	19698.97	4418.04	4432.67		4434.34	0.002990	10.69	2275.41	453.70	0.60
Truckee	Upper	36929.19	Max WS	20190.85	4417.88	4433.57		4434.73	0.002114	9.41	3182.88	628.90	0.51
Truckee	Upper	37156			Lat Struct								
Truckee	Upper	37157			Lat Struct								
Truckee	Upper	37157.78	Max WS	20657.12	4418.82	4433.38		4435.65	0.005485	12.09	1708.34	543.23	0.78
Truckee	Upper	37430.40	Max WS	20658.91	4420.25	4435.42		4436.83	0.003513	9.59	2371.51	812.22	0.63
Truckee	Upper	37723			Lat Struct								
Truckee	Upper	37724.79	Max WS	20716.07	4421.93	4434.74	4434.49	4438.78	0.007904	16.13	1285.38	348.97	0.96
Truckee	Upper	37946.04	Max WS	20725.68	4422.77	4438.07		4439.62	0.002382	10.11	2353.71	541.28	0.55
Truckee	Upper	38183			Lat Struct								
Truckee	Upper	38184.85	Max WS	20726.70	4423.49	4438.60		4440.11	0.002109	9.84	2105.89	189.02	0.52
Truckee	Upper	38371.89	Max WS	20727.21	4424.00	4439.55		4440.42	0.001321	7.80	3215.96	371.46	0.41
Truckee	Upper	38400			Bridge								
Truckee	Upper	38526	Max WS	20727.84	4424.10	4439.95	4435.41	4440.99	0.001607	8.47	3149.57	467.51	0.45
Truckee	Upper	38546.68	Max WS	20727.94	4425.00	4440.09		4440.97	0.001780	7.55	2828.21	459.19	0.46
Truckee	Upper	38790			Inl Struct								
Truckee	Upper	38793.61	Max WS	20726.57	4431.28	4444.16	4441.46	4445.20	0.002015	8.59	3859.40	1118.72	0.52
Truckee	Upper	38891.88	Max WS	20727.12	4431.47	4444.29		4445.44	0.002208	9.01	3582.05	1033.18	0.54
Truckee	Upper	39038.50	Max WS	20728.14	4431.07	4444.41		4446.05	0.002669	10.91	3410.64	954.59	0.61
Truckee	Upper	39325.14	Max WS	20728.28	4431.41	4445.18		4446.57	0.002210	9.93	3412.79	810.67	0.56
Truckee	Upper	39567.24	Max WS	20728.76	4431.68	4445.52		4447.09	0.002317	10.17	2669.37	921.11	0.57
Truckee	Upper	39763.07	Max WS	20729.71	4431.91	4446.00		4447.50	0.002021	10.06	2632.69	550.18	0.54
Truckee	Upper	39956.88	Max WS	20730.70	4432.13	4446.27		4447.94	0.002239	10.55	2567.57	691.85	0.56
Truckee	Upper	40145.43	Max WS	20731.60	4432.42	4446.87		4448.44	0.002034	10.71	2826.57	776.39	0.55
Truckee	Upper	40324.24	Max WS	20732.16	4432.83	4446.62	4444.96	4449.01	0.003947	12.54	1904.80	565.21	0.73
Truckee	Upper	40471.90	Max WS	20730.96	4433.17	4447.34	4445.29	4449.50	0.003543	11.86	1949.08	589.39	0.69
Truckee	Upper	40852.89	Max WS	20733.15	4433.56	4448.34		4450.00	0.002639	10.53	2347.21	522.60	0.60
Truckee	Upper	40837.92	Max WS	20733.21	4433.92	4449.00		4450.38	0.002087	9.51	2511.24	434.75	0.54
Truckee	Upper	41084.64	Max WS	20732.34	4434.37	4449.31		4450.96	0.002819	10.35	2003.01	196.66	0.57
Truckee	Upper	41236.61	Max WS	20732.08	4434.25	4449.65		4451.40	0.002781	10.62	1952.52	176.59	0.56
Truckee	Upper	41361.23	Max WS	20733.43	4433.96	4449.94		4451.72	0.002329	10.70	1936.84	176.84	0.57
Truckee	Upper	41521.41	Max WS	20733.11	4433.97	4449.78		4452.16	0.003054	12.38	1674.28	149.32	0.65
Truckee	Upper	41611.80	Max WS	20732.37	4434.02	4450.85		4452.37	0.001833	9.87	2101.32	181.21	0.51

Appendix C

Northern and Southern Area Encroachments

HEC-RAS Plan: SA dev S+N Profile: Max WS

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(Cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
NTruckeeDrain	Tributary	107.382	Max WS	1719.26	4375.48	4396.60		4396.64	0.000064	1.63	1147.04	104.84	0.07
NTruckeeDrain	Tributary	178.328	Max WS	1347.37	4375.60	4396.63		4396.65	0.000047	1.27	1123.10	117.39	0.06
NTruckeeDrain	Tributary	251.492	Max WS	1047.65	4375.80	4396.65		4396.67	0.000028	0.97	1135.49	112.68	0.05
NTruckeeDrain	Tributary	319.994	Max WS	810.71	4375.90	4396.67		4396.67	0.000013	0.68	1252.09	131.95	0.03
NTruckeeDrain	Tributary	375.106	Max WS	663.29	4375.99	4396.67		4396.68	0.000009	0.56	1245.49	125.36	0.03
NTruckeeDrain	Tributary	434.091	Max WS	489.89	4376.15	4396.67		4396.68	0.000005	0.44	1178.11	116.64	0.02
NTruckeeDrain	Tributary	523			Lat Struct								
NTruckeeDrain	Tributary	523.133	Max WS	205.72	4376.26	4396.68		4396.68	0.000001	0.18	1142.55	113.15	0.01
NTruckeeDrain	Tributary	539			Lat Struct								
NTruckeeDrain	Tributary	540.623	Max WS	196.79	4375.97	4396.68		4396.68	0.000001	0.16	1258.91	113.80	0.01
NTruckeeDrain	Tributary	590			Culvert								
NTruckeeDrain	Tributary	656.064	Max WS	197.08	4375.98	4396.74		4396.74	0.000001	0.19	1064.75	97.41	0.01
NTruckeeDrain	Tributary	723.402	Max WS	178.96	4377.02	4396.74		4396.74	0.000001	0.19	977.17	108.95	0.01
NTruckeeDrain	Tributary	812.551	Max WS	157.45	4377.22	4396.74		4396.74	0.000001	0.17	973.65	108.24	0.01
NTruckeeDrain	Tributary	922.250	Max WS	132.10	4377.39	4396.74		4396.74	0.000001	0.15	929.86	95.03	0.01
NTruckeeDrain	Tributary	1044.111	Max WS	104.72	4377.68	4396.74		4396.74	0.000000	0.11	955.15	105.12	0.01
NTruckeeDrain	Tributary	1126.612	Max WS	89.60	4377.82	4396.74		4396.74	0.000000	0.09	1068.60	119.88	0.00
NTruckeeDrain	Tributary	1207.861	Max WS	71.68	4377.98	4396.74		4396.74	0.000000	0.08	987.29	102.61	0.00
NTruckeeDrain	Tributary	1311.404	Max WS	52.62	4378.21	4396.74		4396.74	0.000000	0.04	1308.16	122.00	0.00
NTruckeeDrain	Tributary	1383			Lat Struct								
NTruckeeDrain	Tributary	1384			Lat Struct								
NTruckeeDrain	Tributary	1385.576	Max WS	42.90	4377.59	4396.74		4396.74	0.000000	0.03	1515.47	122.12	0.00
NTruckeeDrain	Tributary	1422			Culvert								
NTruckeeDrain	Tributary	1465.880	Max WS	41.48	4377.58	4396.75		4396.75	0.000000	0.03	1388.69	115.92	0.00
NTruckeeDrain	Tributary	1573.275	Max WS	63.69	4378.00	4396.75		4396.75	0.000000	0.05	1326.06	138.09	0.00
NTruckeeDrain	Tributary	1686.195	Max WS	88.44	4378.41	4396.75		4396.75	0.000000	0.08	1161.64	118.73	0.00
NTruckeeDrain	Tributary	1814.655	Max WS	99.60	4378.62	4396.75		4396.75	0.000000	0.10	1162.47	119.88	0.00
NTruckeeDrain	Tributary	1927.129	Max WS	103.29	4378.66	4396.75		4396.75	0.000000	0.09	1187.89	113.52	0.00
NTruckeeDrain	Tributary	2028			Lat Struct								
NTruckeeDrain	Tributary	2029.295	Max WS	116.89	4378.68	4396.75		4396.75	0.000000	0.10	1300.56	116.25	0.00
NTruckeeDrain	Tributary	2155.553	Max WS	117.12	4378.84	4396.75		4396.75	0.000000	0.10	1399.58	111.25	0.00
NTruckeeDrain	Tributary	2250.105	Max WS	111.33	4378.97	4396.75		4396.75	0.000000	0.10	1280.13	98.83	0.00
NTruckeeDrain	Tributary	2357.439	Max WS	104.78	4379.05	4396.75		4396.75	0.000000	0.11	1081.59	93.19	0.01
NTruckeeDrain	Tributary	2439.675	Max WS	98.28	4379.14	4396.75		4396.75	0.000000	0.10	1164.57	97.58	0.00
NTruckeeDrain	Tributary	2524.351	Max WS	92.74	4379.12	4396.75		4396.75	0.000000	0.09	1129.17	95.19	0.00
NTruckeeDrain	Tributary	2624.223	Max WS	86.26	4379.23	4396.75		4396.75	0.000000	0.09	1126.37	95.60	0.00
NTruckeeDrain	Tributary	2740.825	Max WS	78.53	4379.38	4396.75		4396.75	0.000000	0.08	1087.79	97.18	0.00
NTruckeeDrain	Tributary	2827.477	Max WS	72.40	4379.43	4396.75		4396.75	0.000000	0.08	977.15	82.14	0.00
NTruckeeDrain	Tributary	2905.768	Max WS	67.32	4379.41	4396.75		4396.75	0.000000	0.08	943.35	81.28	0.00
NTruckeeDrain	Tributary	2961			Lat Struct								
NTruckeeDrain	Tributary	2962.043	Max WS	62.69	4379.48	4396.75		4396.75	0.000000	0.06	1160.98	109.30	0.00
NTruckeeDrain	Tributary	3010.569	Max WS	62.73	4379.55	4396.75		4396.75	0.000000	0.08	1021.63	93.61	0.00
NTruckeeDrain	Tributary	3059.291	Max WS	62.77	4379.52	4396.75		4396.75	0.000000	0.07	1054.21	94.49	0.00
NTruckeeDrain	Tributary	3100			Bridge								
NTruckeeDrain	Tributary	3145.066	Max WS	63.20	4379.58	4396.77	4380.35	4396.77	0.000000	0.08	856.70	88.68	0.00
NTruckeeDrain	Tributary	3188.225	Max WS	62.78	4381.11	4396.77		4396.77	0.000000	0.11	561.13	86.56	0.01
NTruckeeDrain	Tributary	3298			Culvert								
NTruckeeDrain	Tributary	3406.889	Max WS	63.18	4381.87	4396.82		4396.82	0.000000	0.10	675.15	65.93	0.01
NTruckeeDrain	Tributary	3505.624	Max WS	63.24	4382.05	4396.82		4396.82	0.000000	0.11	591.40	81.06	0.01
NTruckeeDrain	Tributary	3588.525	Max WS	63.31	4382.10	4396.82		4396.82	0.000001	0.12	541.84	85.98	0.01
NTruckeeDrain	Tributary	3681.066	Max WS	128.92	4382.26	4396.82		4396.82	0.000002	0.23	566.14	90.91	0.01
NTruckeeDrain	Tributary	3759.033	Max WS	216.22	4382.36	4396.82		4396.82	0.000005	0.37	588.95	79.24	0.02
NTruckeeDrain	Tributary	3852.635	Max WS	330.96	4382.50	4396.82		4396.82	0.000009	0.54	663.78	86.77	0.03
NTruckeeDrain	Tributary	3957.519	Max WS	468.20	4382.64	4396.81		4396.82	0.000022	0.86	603.02	79.67	0.05
NTruckeeDrain	Tributary	4038.556	Max WS	575.13	4382.73	4396.80		4396.82	0.000030	1.01	606.05	72.79	0.06
NTruckeeDrain	Tributary	4112			Lat Struct								
NTruckeeDrain	Tributary	4113.962	Max WS	659.90	4382.86	4396.80		4396.81	0.000027	1.00	701.66	80.92	0.05
NTruckeeDrain	Tributary	4218			Culvert								
NTruckeeDrain	Tributary	4219.063	Max WS	659.90	4382.94	4396.79		4396.81	0.000036	1.18	602.35	61.78	0.06
NTruckeeDrain	Tributary	4295.627	Max WS	584.44	4383.09	4396.81		4396.82	0.000007	0.95	647.85	68.81	0.05
NTruckeeDrain	Tributary	4410			Lat Struct								
NTruckeeDrain	Tributary	4411.208	Max WS	530.68	4383.18	4396.81		4396.82	0.000005	0.81	677.62	79.98	0.05
NTruckeeDrain	Tributary	4547.564	Max WS	505.37	4383.35	4396.82		4396.82	0.000004	0.65	783.42	85.25	0.04
NTruckeeDrain	Tributary	4660.862	Max WS	491.14	4383.49	4396.81		4396.82	0.000006	0.80	635.73	118.85	0.05
NTruckeeDrain	Tributary	4783.775	Max WS	481.18	4383.49	4396.81		4396.83	0.000008	0.88	565.05	110.02	0.06
NTruckeeDrain	Tributary	4888.770	Max WS	475.37	4383.73	4396.82		4396.83	0.000007	0.83	589.19	100.25	0.05
NTruckeeDrain	Tributary	5021.206	Max WS	466.49	4383.90	4396.82		4396.83	0.000005	0.75	646.37	101.12	0.04
NTruckeeDrain	Tributary	5158			Lat Struct								
NTruckeeDrain	Tributary	5159.651	Max WS	459.60	4384.09	4396.82		4396.83	0.000006	0.85	588.82	91.42	0.05
NTruckeeDrain	Tributary	5270.003	Max WS	455.42	4384.09	4396.82		4396.83	0.000005	0.82	755.26	141.65	0.05
NTruckeeDrain	Tributary	5395.945	Max WS	451.63	4384.46	4396.82		4396.83	0.000007	0.87	669.32	115.45	0.05
NTruckeeDrain	Tributary	5509.261	Max WS	450.69	4384.58	4396.82		4396.83	0.000005	0.81	730.84	124.91	0.05
NTruckeeDrain	Tributary	5633.260	Max WS	452.99	4384.62	4396.83		4396.83	0.000017	0.74	743.37	133.09	0.04
NTruckeeDrain	Tributary	5773.892	Max WS	456.22	4384.99	4396.83		4396.84	0.000023	0.80	639.65	121.34	0.05
NTruckeeDrain	Tributary	5914.636	Max WS	473.35	4385.04	4396.83		4396.84	0.000026	0.84	628.44	122.40	0.05
NTruckeeDrain	Tributary	6072.075	Max WS	510.53	4385.23	4396.83		4396.84	0.000026	0.84	673.49	128.03	0.05

HEC-RAS Plan: SA dcy S+N Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SteamBoatCr	Lower	837.580	Max WS	2846.22	4374.90	4396.77		4396.84	0.000085	2.24	1388.73	119.31	0.10
SteamBoatCr	Lower	869	Lat Struct										
SteamBoatCr	Lower	870.947	Max WS	2830.58	4375.16	4396.78		4396.85	0.000083	2.12	1362.87	109.20	0.10
SteamBoatCr	Lower	913.873	Max WS	2821.29	4375.16	4396.78		4396.85	0.000094	2.10	1355.77	121.71	0.11
SteamBoatCr	Lower	947.483	Max WS	2807.64	4375.11	4396.77		4396.86	0.000104	2.39	1210.77	92.88	0.11
SteamBoatCr	Lower	985.015	Max WS	2767.45	4375.33	4396.76		4396.86	0.000120	2.57	1110.55	86.74	0.13
SteamBoatCr	Lower	1020.015	Max WS	2744.75	4375.55	4396.78		4396.87	0.000107	2.40	1177.22	94.88	0.12
SteamBoatCr	Lower	1061.007	Max WS	2738.57	4375.76	4396.78		4396.87	0.000109	2.50	1163.04	92.73	0.12
SteamBoatCr	Lower	1098.598	Max WS	2743.12	4375.65	4396.81		4396.88	0.000072	2.07	1472.25	136.09	0.10
SteamBoatCr	Lower	1128.101	Max WS	2766.08	4375.44	4396.80		4396.88	0.000083	2.22	1357.46	122.39	0.10
SteamBoatCr	Lower	1177.102	Max WS	2765.99	4375.38	4396.79		4396.88	0.000135	2.60	1179.60	115.77	0.13
SteamBoatCr	Lower	1221.705	Max WS	2766.06	4375.49	4396.79		4396.89	0.000140	2.67	1145.47	116.84	0.13
SteamBoatCr	Lower	1270.942	Max WS	2766.07	4375.82	4396.83		4396.89	0.000076	2.02	1408.71	130.63	0.10
SteamBoatCr	Lower	1339.197	Max WS	2766.19	4375.93	4396.83		4396.90	0.000084	2.01	1402.86	147.14	0.10
SteamBoatCr	Lower	1388.816	Max WS	2766.08	4376.25	4396.85		4396.90	0.000070	1.85	1512.58	155.51	0.10
SteamBoatCr	Lower	1430.836	Max WS	2766.21	4376.31	4396.86		4396.90	0.000059	1.70	1642.39	163.39	0.09
SteamBoatCr	Lower	1456.113	Max WS	2766.08	4376.42	4396.86		4396.90	0.000062	1.71	1630.10	159.56	0.09
SteamBoatCr	Lower	1491.787	Max WS	2766.07	4376.42	4396.86		4396.91	0.000062	1.69	1637.25	165.17	0.09
SteamBoatCr	Lower	1533.670	Max WS	2766.09	4376.58	4396.87		4396.91	0.000053	1.60	1737.67	182.06	0.08
SteamBoatCr	Lower	1571.944	Max WS	2766.13	4376.67	4396.87		4396.91	0.000051	1.61	1756.17	182.64	0.08
SteamBoatCr	Lower	1610	Lat Struct										
SteamBoatCr	Lower	1611.775	Max WS	2766.07	4376.76	4396.87		4396.91	0.000052	1.60	1759.37	179.28	0.08
SteamBoatCr	Lower	1850.082	Max WS	2766.07	4376.73	4396.87		4396.92	0.000057	1.67	1699.04	176.48	0.09
SteamBoatCr	Lower	1886.056	Max WS	2766.25	4376.72	4396.87		4396.92	0.000060	1.73	1654.10	171.78	0.09
SteamBoatCr	Lower	1725.015	Max WS	2766.18	4376.58	4396.87		4396.92	0.000067	1.81	1586.38	165.42	0.09
SteamBoatCr	Lower	1764.518	Max WS	2766.16	4376.64	4396.87		4396.92	0.000075	1.91	1526.77	175.55	0.10
SteamBoatCr	Lower	1811.719	Max WS	2766.29	4376.31	4396.87		4396.93	0.000078	1.98	1479.63	156.59	0.10
SteamBoatCr	Lower	1853.106	Max WS	2766.27	4376.21	4396.87		4396.93	0.000088	2.04	1436.80	158.40	0.11
SteamBoatCr	Lower	1876.472	Max WS	2767.98	4376.02	4396.87		4396.93	0.000080	2.10	1454.59	176.98	0.10
SteamBoatCr	Lower	1909.980	Max WS	2830.06	4375.89	4396.87		4396.94	0.000086	2.19	1490.83	170.46	0.11
SteamBoatCr	Lower	1944.241	Max WS	2913.92	4376.15	4396.86		4396.94	0.000100	2.39	1439.63	157.00	0.12
SteamBoatCr	Lower	1986.717	Max WS	3038.85	4376.45	4396.86		4396.93	0.000094	2.25	1538.61	163.03	0.11
SteamBoatCr	Lower	2030.680	Max WS	3190.32	4376.45	4396.87		4396.93	0.000075	2.12	1700.30	164.29	0.10
SteamBoatCr	Lower	2069.347	Max WS	3312.81	4376.59	4396.85		4396.93	0.000082	2.27	1638.29	154.30	0.11
SteamBoatCr	Lower	2112.440	Max WS	3417.61	4376.72	4396.81		4396.93	0.000121	2.78	1336.97	121.05	0.13
SteamBoatCr	Lower	2157.305	Max WS	3477.17	4376.85	4396.81		4396.93	0.000125	2.81	1345.77	123.21	0.13
SteamBoatCr	Lower	2200.879	Max WS	3519.17	4376.85	4396.81		4396.94	0.000143	2.93	1307.51	123.57	0.14
SteamBoatCr	Lower	2241.068	Max WS	3539.61	4376.85	4396.80		4396.94	0.000158	3.07	1261.11	120.42	0.15
SteamBoatCr	Lower	2280.799	Max WS	3547.33	4376.85	4396.80		4396.95	0.000166	3.20	1216.60	114.27	0.15
SteamBoatCr	Lower	2321.408	Max WS	3554.61	4376.85	4396.80		4396.96	0.000168	3.22	1210.49	113.20	0.15
SteamBoatCr	Lower	2358	Lat Struct										
SteamBoatCr	Lower	2359.917	Max WS	3574.33	4376.85	4396.81		4396.96	0.000161	3.19	1227.32	112.34	0.15
SteamBoatCr	Lower	2403.772	Max WS	3633.62	4376.40	4396.82		4396.96	0.000150	3.06	1299.93	120.09	0.14
SteamBoatCr	Lower	2449.652	Max WS	3726.22	4376.21	4396.83		4396.97	0.000138	3.15	1450.74	136.67	0.14
SteamBoatCr	Lower	2504.428	Max WS	3842.30	4375.83	4396.83		4396.97	0.000152	3.24	1470.01	140.61	0.14
SteamBoatCr	Lower	2554.089	Max WS	3960.53	4375.95	4396.83		4396.97	0.000157	3.27	1517.46	150.59	0.14
SteamBoatCr	Lower	2610.043	Max WS	4084.84	4375.82	4398.84		4396.97	0.000147	3.17	1621.32	163.91	0.14
SteamBoatCr	Lower	2669.902	Max WS	4233.35	4375.95	4396.86		4396.97	0.000121	2.86	1844.90	186.08	0.13
SteamBoatCr	Lower	2715.208	Max WS	4341.08	4376.53	4396.82		4396.97	0.000154	3.26	1568.66	160.54	0.15
SteamBoatCr	Lower	2760.717	Max WS	4384.10	4376.75	4396.80		4396.98	0.000214	3.61	1463.74	169.03	0.17
SteamBoatCr	Lower	2811.290	Max WS	4395.89	4377.07	4396.80		4397.00	0.000236	3.81	1478.25	169.34	0.18
SteamBoatCr	Lower	2863.930	Max WS	4431.97	4376.85	4396.81		4397.01	0.000220	3.83	1509.73	167.45	0.17
SteamBoatCr	Lower	2919.977	Max WS	4514.56	4376.72	4398.82		4397.01	0.000217	3.80	1548.67	169.44	0.16
SteamBoatCr	Lower	2984.158	Max WS	4590.06	4376.96	4396.81		4397.03	0.000266	4.08	1469.91	173.72	0.18
SteamBoatCr	Lower	3047.244	Max WS	4528.08	4377.16	4396.73		4397.08	0.000430	4.90	1143.11	173.23	0.23
SteamBoatCr	Lower	3109.126	Max WS	4430.55	4377.45	4398.78		4397.12	0.000457	4.94	1142.29	177.72	0.24
SteamBoatCr	Lower	3171	Lat Struct										
SteamBoatCr	Lower	3172.000	Max WS	4485.08	4377.35	4396.84		4397.13	0.000348	4.51	1239.93	178.43	0.21
SteamBoatCr	Lower	3566.178	Max WS	2914.84	4377.36	4397.08		4397.09	0.000018	1.17	4508.67	543.55	0.05
SteamBoatCr	Lower	3875.902	Max WS	2920.18	4376.78	4397.08		4397.09	0.000015	1.04	5530.72	718.73	0.04
SteamBoatCr	Lower	4023	Lat Struct										
SteamBoatCr	Lower	4024.010	Max WS	2913.27	4377.18	4397.07		4397.11	0.000056	1.75	2360.50	393.40	0.09
SteamBoatCr	Lower	4051	Bridge										
SteamBoatCr	Lower	4075.498	Max WS	2915.12	4377.23	4397.19	4382.44	4397.20	0.000008	0.76	7199.52	794.73	0.03
SteamBoatCr	Lower	4149.066	Max WS	2831.39	4377.10	4397.19		4397.20	0.000012	0.88	4829.38	484.68	0.04
SteamBoatCr	Lower	4216.902	Max WS	2745.13	4377.23	4397.19		4397.20	0.000013	0.97	4526.04	438.74	0.04
SteamBoatCr	Lower	4268.142	Max WS	2679.62	4377.45	4397.19		4397.20	0.000014	1.02	4300.47	437.47	0.04
SteamBoatCr	Lower	4317.378	Max WS	2611.97	4377.64	4397.19		4397.20	0.000014	1.04	4055.63	406.11	0.05
SteamBoatCr	Lower	4367.189	Max WS	2548.29	4377.41	4397.20		4397.21	0.000013	1.02	4068.58	386.19	0.04
SteamBoatCr	Lower	4410.447	Max WS	2493.78	4377.05	4397.20		4397.21	0.000011	0.93	4301.32	415.25	0.04
SteamBoatCr	Lower	4456.105	Max WS	2441.25	4376.63	4397.20		4397.21	0.000010	0.88	4450.49	421.35	0.04
SteamBoatCr	Lower	4500.090	Max WS	2398.76	4376.04	4397.20		4397.21	0.000009	0.86	4594.09	426.05	0.04
SteamBoatCr	Lower	4543.360	Max WS	2363.26	4376.45	4397.20		4397.21	0.000010	0.91	4256.57	405.28	0.04
SteamBoatCr	Lower	4585.215	Max WS	2327.51	4376.75	4397.20		4397.21	0.000011	0.93	4131.54	390.40	0.04
SteamBoatCr	Lower	4633.821	Max WS	2283.58	4376.95	4397.20		4397.21	0.000013	1.00	3749.14	363.86	0.04
SteamBoatCr	Lower	4677.849	Max WS	2247.87	4377.56	4397.20		4397.21	0.000016	1.11	3287.19	328.24	0.05

HEC-RAS Plan: SA dev S+N Profile: Max WS (Continued)

HEC-RAS Plan: SA dev S+N Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SteamBoatCr	Lower	12921.66	Max WS	1706.55	4380.50	4397.26	4385.34	4397.34	0.000113	2.38	728.39	232.57	0.11
SteamBoatCr	Lower	12995.01	Max WS	1718.62	4381.00	4397.32		4397.33	0.000025	1.12	1982.37	326.50	0.06
SteamBoatCr	Lower	13069.79	Max WS	1838.95	4381.09	4397.32		4397.33	0.000009	0.74	2816.23	325.28	0.04
SteamBoatCr	Lower	13142.79	Max WS	1992.22	4381.13	4397.32		4397.33	0.000005	0.60	3755.57	392.10	0.03
SteamBoatCr	Lower	13212.23	Max WS	2116.30	4381.22	4397.33		4397.33	0.000004	0.54	4464.12	439.26	0.02
SteamBoatCr	Lower	13288.25	Max WS	2252.57	4381.30	4397.32		4397.33	0.000004	0.54	4363.54	346.29	0.03
SteamBoatCr	Lower	13381.56	Max WS	2436.39	4381.33	4397.33		4397.33	0.000003	0.49	5384.23	435.49	0.02
SteamBoatCr	Lower	13458	Lat Struct										
SteamBoatCr	Lower	13489.18	Max WS	2631.74	4383.48	4397.32		4397.33	0.000006	0.58	5010.25	503.50	0.03
SteamBoatCr	Lower	13579.42	Max WS	2630.49	4381.72	4397.33		4397.33	0.000003	0.46	6054.98	538.34	0.02
SteamBoatCr	Upper	13630.60	Max WS	1809.75	4381.76	4397.33		4397.33	0.000003	0.46	4075.55	295.07	0.02
SteamBoatCr	Upper	13709.34	Max WS	1798.86	4381.88	4397.33		4397.33	0.000003	0.47	4123.49	309.18	0.02
SteamBoatCr	Upper	13773.89	Max WS	1793.63	4382.04	4397.33		4397.33	0.000002	0.41	4605.07	337.03	0.02
SteamBoatCr	Upper	13855.50	Max WS	1781.58	4382.07	4397.33		4397.33	0.000002	0.34	5437.52	390.74	0.02
SteamBoatCr	Upper	13956.74	Max WS	1766.17	4382.13	4397.33		4397.33	0.000003	0.43	4340.58	335.19	0.02
SteamBoatCr	Upper	14061.65	Max WS	1751.51	4382.39	4397.32		4397.33	0.000008	0.73	2575.85	204.00	0.03
SteamBoatCr	Upper	14143.03	Max WS	1718.19	4382.48	4397.32		4397.33	0.000019	1.07	1744.94	155.81	0.05
SteamBoatCr	Upper	14224	Lat Struct										
SteamBoatCr	Upper	14225.22	Max WS	1685.22	4382.55	4397.32		4397.33	0.000017	0.98	1948.67	179.35	0.05
SteamBoatCr	Upper	14333.23	Max WS	1648.03	4382.71	4397.33		4397.34	0.000008	0.70	2687.24	241.01	0.03
SteamBoatCr	Upper	14419.30	Max WS	1646.01	4382.90	4397.33		4397.34	0.000006	0.61	3052.60	274.63	0.03
SteamBoatCr	Upper	14526	Lat Struct										
SteamBoatCr	Upper	14527.17	Max WS	1643.55	4382.99	4397.33		4397.34	0.000004	0.51	3573.54	316.76	0.02
SteamBoatCr	Upper	14615.11	Max WS	1645.52	4383.15	4397.34		4397.34	0.000002	0.35	5196.18	437.39	0.02
SteamBoatCr	Upper	14702.45	Max WS	1648.21	4383.18	4397.34		4397.34	0.000001	0.20	8785.53	756.80	0.01
SteamBoatCr	Upper	14800.91	Max WS	1641.87	4383.40	4397.34		4397.34	0.000000	0.16	10270.82	906.10	0.01
SteamBoatCr	Upper	14889	Lat Struct										
SteamBoatCr	Upper	14870.51	Max WS	1637.48	4383.45	4397.34		4397.34	0.000001	0.20	8772.61	1013.19	0.01
SteamBoatCr	Upper	14939.41	Max WS	1638.76	4383.59	4397.34		4397.34	0.000001	0.27	6807.55	936.70	0.01
SteamBoatCr	Upper	15136.44	Max WS	1641.58	4383.82	4397.34		4397.34	0.000005	0.52	4854.58	963.36	0.03
SteamBoatCr	Upper	15321.63	Max WS	1642.37	4384.07	4397.34		4397.34	0.000007	0.59	4197.74	881.18	0.03
SteamBoatCr	Upper	15497.00	Max WS	1645.94	4384.28	4397.34		4397.34	0.000008	0.64	4261.98	1004.65	0.03
SteamBoatCr	Upper	15689	Lat Struct										
SteamBoatCr	Upper	15700.20	Max WS	1648.42	4384.60	4397.34		4397.34	0.000003	0.40	5493.67	1005.97	0.02
SteamBoatCr	Upper	15823.40	Max WS	1654.32	4384.81	4397.34		4397.34	0.000004	0.43	4826.67	997.48	0.02
SteamBoatCr	Upper	16010.99	Max WS	1674.54	4384.67	4397.34		4397.34	0.000003	0.42	5286.45	1063.25	0.02
SteamBoatCr	Upper	16196.10	Max WS	1690.28	4384.81	4397.34		4397.34	0.000004	0.43	5127.40	930.37	0.02
SteamBoatCr	Upper	16386.81	Max WS	1710.76	4384.70	4397.34		4397.34	0.000004	0.45	4912.02	877.87	0.02
SteamBoatCr	Upper	16529.29	Max WS	1729.76	4384.79	4397.34		4397.34	0.000003	0.40	5744.03	1154.92	0.02
SteamBoatCr	Upper	16712.94	Max WS	1747.03	4385.00	4397.34		4397.34	0.000005	0.42	5024.27	1082.84	0.02
SteamBoatCr	Upper	16865.61	Max WS	1773.70	4385.20	4397.34		4397.35	0.000005	0.44	4709.85	823.51	0.03
SteamBoatCr	Upper	17000	Lat Struct										
SteamBoatCr	Upper	17009.16	Max WS	1798.85	4385.20	4397.34		4397.35	0.000006	0.47	4393.36	766.88	0.03
SteamBoatCr	Upper	17235.55	Max WS	1792.51	4385.57	4397.34		4397.35	0.000005	0.50	4259.95	636.96	0.03
SteamBoatCr	Upper	17377.60	Max WS	1784.98	4386.01	4397.34		4397.35	0.000007	0.55	3626.45	470.53	0.03
SteamBoatCr	Upper	17469.81	Max WS	1767.14	4386.28	4397.34		4397.35	0.000007	0.56	3340.14	391.55	0.03
SteamBoatCr	Upper	17562.79	Max WS	1780.47	4385.69	4397.34		4397.35	0.000007	0.55	3339.56	361.28	0.03
SteamBoatCr	Upper	17638.41	Max WS	1774.58	4385.88	4397.35		4397.35	0.000007	0.57	3262.59	350.13	0.03
SteamBoatCr	Upper	17712.09	Max WS	1781.05	4386.08	4397.34		4397.35	0.000009	0.61	3013.01	321.98	0.03
SteamBoatCr	Upper	17779.24	Max WS	1780.44	4386.28	4397.34		4397.35	0.000010	0.64	2864.35	304.02	0.04
SteamBoatCr	Upper	17845.72	Max WS	1772.10	4386.00	4397.35		4397.35	0.000010	0.66	2754.94	297.94	0.04
SteamBoatCr	Upper	17942	Lat Struct										
SteamBoatCr	Upper	17943.58	Max WS	1771.52	4385.70	4397.35		4397.35	0.000010	0.66	2777.65	291.41	0.04
SteamBoatCr	Upper	18092.36	Max WS	1767.97	4386.80	4397.35		4397.36	0.000015	0.76	2444.16	273.04	0.04
SteamBoatCr	Upper	18207.00	Max WS	1771.55	4386.78	4397.35		4397.36	0.000012	0.71	2645.46	306.47	0.04
SteamBoatCr	Upper	18312.65	Max WS	1766.56	4386.88	4397.35		4397.36	0.000010	0.65	2886.04	340.70	0.04
SteamBoatCr	Upper	18432.08	Max WS	1777.20	4386.89	4397.35		4397.36	0.000013	0.67	2840.05	359.20	0.04
SteamBoatCr	Upper	18549.50	Max WS	1779.73	4387.31	4397.35		4397.36	0.000030	1.08	2333.42	362.62	0.06
SteamBoatCr	Upper	18680.59	Max WS	1788.27	4387.30	4397.35		4397.37	0.000032	1.11	2350.98	364.41	0.06
SteamBoatCr	Upper	18801.33	Max WS	1802.70	4387.49	4397.36		4397.37	0.000029	1.05	2715.20	449.87	0.06
SteamBoatCr	Upper	18908.23	Max WS	1852.83	4387.61	4397.36		4397.37	0.000033	1.10	2709.86	484.63	0.07
SteamBoatCr	Upper	19035	Lat Struct										
SteamBoatCr	Upper	19036.19	Max WS	1897.69	4387.71	4397.36		4397.38	0.000040	1.18	2482.96	460.52	0.07
SteamBoatCr	Upper	19148.18	Max WS	1899.20	4388.51	4397.37		4397.38	0.000038	1.07	5615.11	1979.91	0.06
SteamBoatCr	Upper	19221	Culvert										
SteamBoatCr	Upper	19296.90	Max WS	1961.50	4388.60	4397.46		4397.47	0.000033	0.98	6532.98	2037.39	0.06
SteamBoatCr	Upper	19318.01	Max WS	1951.41	4388.80	4397.46		4397.48	0.000089	1.50	1984.87	2114.09	0.10
SteamBoatCr	Upper	19433.49	Max WS	1979.76	4388.90	4397.47		4397.49	0.000064	1.06	2407.02	1984.10	0.08
SteamBoatCr	Upper	19514.99	Max WS	1969.41	4389.00	4397.47		4397.51	0.000154	1.84	1605.45	1532.80	0.13
SteamBoatCr	Upper	19621.57	Max WS	1969.50	4389.17	4397.48		4397.53	0.000276	1.83	1081.03	1692.31	0.16
SteamBoatCr	Upper	19726.97	Max WS	1948.28	4389.46	4397.47		4397.56	0.000263	2.47	875.41	1832.82	0.17
SteamBoatCr	Upper	19752	Max WS	2039.50	4389.82	4397.52		4397.55	0.000223	1.99	3204.13	2049.68	0.15
SteamBoatCr	Upper	19760	Bridge										
SteamBoatCr	Upper	19772.07	Max WS	4848.96	4398.62	4398.81	4392.97	4398.82	0.000105	1.56	13815.50	2536.95	0.10
SteamBoatCr	Upper	19846.7*	Max WS	4850.47	4398.80	4398.82	4398.83	4398.83	0.000117	1.54	12982.46	2541.69	0.11
SteamBoatCr	Upper	19921.4*	Max WS	4850.66	4398.98	4398.83	4398.83	4398.83	0.000128	1.49	12151.14	2540.78	0.11

HEC-RAS Plan: SA dev S+N Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q>Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SteamBoatCr	Upper	19996.2*	Max WS	4852.39	4390.16	4398.84	4398.84	0.000140	1.44	11366.51	2483.16	0.11	
SteamBoatCr	Upper	20070.9*	Max WS	4852.15	4390.34	4398.85	4398.85	0.000154	1.39	10568.71	2483.53	0.11	
SteamBoatCr	Upper	20145.64	Max WS	4853.51	4390.52	4398.86	4398.86	0.000167	1.38	9790.64	2480.00	0.12	
SteamBoatCr	Upper	20222.2*	Max WS	4851.58	4390.69	4398.87	4398.87	0.000174	1.37	9610.11	2441.53	0.12	
SteamBoatCr	Upper	20298.8*	Max WS	4853.94	4390.87	4398.88	4398.88	0.000182	1.37	9434.71	2402.78	0.12	
SteamBoatCr	Upper	20375.4*	Max WS	4853.56	4391.04	4398.89	4398.90	0.000189	1.36	9267.24	2363.84	0.12	
SteamBoatCr	Upper	20452.01	Max WS	4853.78	4391.21	4398.90	4398.91	0.000197	1.36	9100.49	2324.31	0.12	
SteamBoatCr	Upper	20522.8*	Max WS	4855.42	4391.38	4398.92	4398.92	0.000197	1.38	9035.66	2275.38	0.12	
SteamBoatCr	Upper	20593.7*	Max WS	4856.23	4391.54	4398.94	4398.94	0.000197	1.39	8981.94	2231.94	0.12	
SteamBoatCr	Upper	20664.66	Max WS	4855.05	4391.71	4398.95	4398.96	0.000196	1.36	8960.85	2201.28	0.12	
SteamBoatCr	Upper	20733.4*	Max WS	4855.19	4391.81	4398.97	4398.98	0.000264	1.59	8164.38	2185.80	0.14	
SteamBoatCr	Upper	20802.3*	Max WS	4856.94	4391.91	4398.99	4399.00	0.000316	1.76	7521.53	2047.99	0.15	
SteamBoatCr	Upper	20871.17	Max WS	4856.46	4392.01	4399.02	4399.03	0.000373	1.93	7068.39	2009.85	0.17	
SteamBoatCr	Upper	20952.9*	Max WS	4858.15	4392.09	4399.05	4399.06	0.000434	2.06	6656.39	1941.73	0.18	
SteamBoatCr	Upper	21034.7*	Max WS	4859.41	4392.17	4399.08	4399.09	0.000498	2.17	6268.91	1886.67	0.19	
SteamBoatCr	Upper	21116.5*	Max WS	4858.70	4392.24	4399.12	4399.13	0.000561	2.26	5914.80	1767.16	0.20	
SteamBoatCr	Upper	21198.3*	Max WS	4859.80	4392.32	4399.16	4399.17	0.000620	2.33	5597.81	1667.39	0.21	
SteamBoatCr	Upper	21280.14	Max WS	4863.00	4392.40	4399.20	4399.22	0.000692	2.43	5323.49	1595.17	0.21	
SteamBoatCr	Upper	21331.4*	Max WS	4862.59	4392.51	4399.25	4399.27	0.000839	2.76	5002.62	1569.73	0.24	
SteamBoatCr	Upper	21382.8*	Max WS	4865.42	4392.63	4399.31	4399.34	0.001007	3.15	4725.59	1584.61	0.27	
SteamBoatCr	Upper	21434.20	Max WS	4866.40	4392.74	4399.38	4399.41	0.001186	3.61	4465.91	1601.77	0.30	
SteamBoatCr	Upper	21505.6*	Max WS	4870.00	4392.87	4399.51	4399.56	0.001834	4.11	3930.73	1637.98	0.36	
SteamBoatCr	Upper	21577.12	Max WS	4870.56	4393.00	4399.70	4399.78	0.002686	4.99	3494.18	1656.28	0.42	
SteamBoatCr	Upper	21635.5*	Max WS	4873.91	4393.17	4399.87	4399.94	0.002586	4.64	3550.58	1704.26	0.43	
SteamBoatCr	Upper	21693.9*	Max WS	4874.34	4393.34	4400.02	4400.10	0.002334	4.58	3610.08	1738.86	0.43	
SteamBoatCr	Upper	21752.38	Max WS	4874.48	4393.51	4400.15	4400.25	0.002058	4.71	3658.89	1754.56	0.42	
SteamBoatCr	Upper	21829.6*	Max WS	4874.79	4393.70	4400.31	4400.40	0.002568	4.91	3522.63	1773.68	0.46	
SteamBoatCr	Upper	21906.9*	Max WS	4875.36	4393.89	4400.50	4400.59	0.002894	5.19	3457.30	1769.16	0.48	
SteamBoatCr	Upper	21984.17	Max WS	4876.32	4394.08	4400.71	4400.79	0.003080	5.55	3458.26	1801.75	0.48	
SteamBoatCr	Upper	22057.1*	Max WS	4877.47	4394.46	4400.90	4400.97	0.002928	5.14	3583.94	1866.42	0.47	
SteamBoatCr	Upper	22130.0*	Max WS	4877.40	4394.83	4401.08	4401.14	0.002640	4.71	3748.05	1902.88	0.45	
SteamBoatCr	Upper	22202.9*	Max WS	4877.82	4395.21	4401.24	4401.30	0.002348	4.40	3906.04	1940.07	0.43	
SteamBoatCr	Upper	22275.93	Max WS	4878.55	4395.59	4401.39	4401.44	0.002104	4.18	4077.16	1982.85	0.41	
SteamBoatCr	Upper	22363.5*	Max WS	4878.99	4395.65	4401.54	4401.58	0.002105	4.20	4083.03	1995.58	0.41	
SteamBoatCr	Upper	22451.1*	Max WS	4879.10	4395.71	4401.68	4401.73	0.002101	4.21	4091.46	2007.19	0.41	
SteamBoatCr	Upper	22538.7*	Max WS	4878.32	4395.77	4401.83	4401.88	0.002078	4.21	4101.67	2012.75	0.40	
SteamBoatCr	Upper	22626.4*	Max WS	4879.57	4395.83	4401.98	4402.02	0.002069	4.21	4113.33	2013.26	0.40	
SteamBoatCr	Upper	22714.0*	Max WS	4879.02	4395.90	4402.12	4402.17	0.002069	4.23	4120.78	2018.94	0.40	
SteamBoatCr	Upper	22801.6*	Max WS	4880.32	4395.96	4402.26	4402.31	0.002064	4.24	4124.89	2029.41	0.40	
SteamBoatCr	Upper	22889.2*	Max WS	4881.17	4396.02	4402.40	4402.45	0.002054	4.25	4131.61	2029.72	0.40	
SteamBoatCr	Upper	22976.87	Max WS	4881.46	4396.08	4402.53	4402.58	0.002040	4.25	4137.75	2026.04	0.40	
Truckee	Lower	123.156	Max WS	21292.74	4366.38	4380.59	4374.82	0.001026	6.62	3529.81	406.12	0.35	
Truckee	Lower	198.520	Max WS	21293.33	4365.83	4380.11	4381.47	0.002782	9.54	2446.51	338.79	0.56	
Truckee	Lower	407.494*	Max WS	21293.48	4363.71	4380.59	4381.72	0.002226	8.52	2499.31	280.12	0.50	
Truckee	Lower	616.469	Max WS	21292.54	4361.59	4381.29	4381.88	0.001160	6.33	3841.36	554.69	0.37	
Truckee	Lower	769.794	Max WS	21292.92	4367.64	4380.99	4382.17	0.002137	8.71	2444.08	256.54	0.50	
Truckee	Lower	945.448*	Max WS	21293.81	4367.36	4381.15	4382.58	0.002523	9.58	2222.78	229.38	0.54	
Truckee	Lower	1121.10*	Max WS	21292.86	4367.08	4381.30	4383.06	0.002938	10.62	2004.12	198.05	0.59	
Truckee	Lower	1296.75*	Max WS	21293.13	4366.81	4381.40	4383.62	0.003528	11.98	1778.05	167.19	0.65	
Truckee	Lower	1472.411	Max WS	21292.25	4366.53	4381.27	4384.36	0.004809	14.09	1511.44	138.66	0.75	
Truckee	Lower	1638.40*	Max WS	21294.40	4366.79	4382.05	4385.15	0.004744	14.12	1508.32	138.29	0.75	
Truckee	Lower	1804.40*	Max WS	21294.86	4367.05	4383.06	4385.88	0.004028	13.46	1582.21	134.98	0.69	
Truckee	Lower	1970.402	Max WS	21294.90	4367.31	4383.96	4386.44	0.002786	12.63	1685.49	133.71	0.63	
Truckee	Lower	2095.32*	Max WS	21294.99	4367.30	4384.73	4386.75	0.002212	11.41	1867.12	147.01	0.56	
Truckee	Lower	2220.24*	Max WS	21294.03	4367.29	4385.29	4387.01	0.001852	10.52	2024.98	158.57	0.52	
Truckee	Lower	2345.16*	Max WS	21295.05	4367.27	4385.73	4387.22	0.001586	9.80	2173.08	172.36	0.48	
Truckee	Lower	2470.082	Max WS	21294.65	4367.26	4386.11	4387.41	0.001319	9.16	2375.85	213.96	0.44	
Truckee	Lower	2622.13*	Max WS	21294.22	4367.26	4386.38	4387.59	0.001153	8.87	2504.08	235.34	0.42	
Truckee	Lower	2774.18*	Max WS	21294.77	4367.25	4386.62	4387.76	0.001029	8.64	2645.60	268.37	0.40	
Truckee	Lower	2926.24*	Max WS	21294.94	4367.25	4386.84	4387.91	0.000933	8.43	2816.80	303.18	0.38	
Truckee	Lower	3078.293	Max WS	21295.19	4367.25	4387.04	4388.05	0.000656	8.22	3014.83	322.73	0.36	
Truckee	Lower	3209.10*	Max WS	21294.62	4367.63	4387.07	4388.17	0.000977	8.57	2821.53	321.70	0.39	
Truckee	Lower	3339.90*	Max WS	21294.97	4368.00	4387.13	4388.31	0.001082	8.79	2676.62	321.94	0.41	
Truckee	Lower	3470.71*	Max WS	21295.19	4368.38	4387.27	4388.45	0.001121	8.77	2608.75	305.13	0.41	
Truckee	Lower	3601.522	Max WS	21295.31	4368.76	4387.45	4388.59	0.001088	8.58	2607.89	300.81	0.40	
Truckee	Lower	3727.95*	Max WS	21295.47	4368.84	4387.50	4388.73	0.001203	8.91	2482.12	282.80	0.42	
Truckee	Lower	3854.38*	Max WS	21295.78	4368.93	4387.56	4388.89	0.001333	9.27	2362.14	270.38	0.44	
Truckee	Lower	3980.92*	Max WS	21296.10	4369.02	4387.64	4389.07	0.001432	9.59	2259.57	251.01	0.46	
Truckee	Lower	4107.256	Max WS	21296.19	4369.10	4387.75	4389.25	0.001496	9.84	2184.73	218.75	0.47	
Truckee	Lower	4273.28*	Max WS	21296.32	4368.98	4387.96	4389.50	0.001489	9.97	2162.18	214.29	0.47	
Truckee	Lower	4439.31*	Max WS	21296.62	4368.87	4388.17	4389.75	0.001464	10.07	2146.46	206.34	0.46	
Truckee	Lower	4605.342	Max WS	21296.61	4368.75	4388.39	4389.99	0.001437	10.15	2135.27	196.28	0.46	
Truckee	Lower	4731.37*	Max WS	21296.49	4368.79	4388.53	4390.18	0.001504	10.30	2111.35	187.41	0.47	
Truckee	Lower	4857.39*	Max WS	21296.68	4368.83	4388.72	4390.37	0.001524	10.33	2115.66	184.91	0.48	
Truckee	Lower	4983.42*	Max WS	21296.66	4368.87	4388.94	4390.56	0.001484	10.22	2146.07	183.43	0.47	
Truckee	Lower	5109.454	Max WS	21296.45	4368.91	4389.19	4390.74	0.001399					

HEC-RAS Plan: SA dev S+N Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow-Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Truckee	Lower	5241.07*	Max WS	21296.73	4369.49	4389.29		4390.93	0.001587	10.26	2075.20	147.06	0.48
Truckee	Lower	5372.68*	Max WS	21296.46	4370.06	4389.52		4391.14	0.001628	10.20	2087.38	151.61	0.48
Truckee	Lower	5504.302	Max WS	21296.96	4370.64	4389.78		4391.35	0.001655	10.07	2113.91	157.39	0.48
Truckee	Lower	5616.15*	Max WS	21296.85	4370.38	4390.16		4391.52	0.001330	9.35	2278.01	163.19	0.44
Truckee	Lower	5728.00*	Max WS	21296.93	4370.13	4390.49		4391.65	0.001046	8.66	2460.14	165.91	0.40
Truckee	Lower	5839.856	Max WS	21297.01	4369.87	4390.76		4391.76	0.000804	8.01	2682.64	178.28	0.35
Truckee	Lower	6033.843	Max WS	21296.82	4370.02	4391.00		4391.78	0.000574	7.14	3175.41	229.40	0.31
Truckee	Lower	6088.776	Max WS	21297.13	4370.12	4390.84		4391.82	0.000700	7.97	2774.28	185.83	0.34
Truckee	Lower	6216.105	Max WS	21296.51	4370.07	4390.76		4391.93	0.000865	8.79	2581.83	180.67	0.38
Truckee	Lower	6327.249	Max WS	21297.27	4370.07	4390.60		4392.08	0.001130	9.97	2364.18	174.67	0.42
Truckee	Lower	6489.055	Max WS	21297.13	4370.16	4390.53		4392.31	0.001359	10.90	2167.07	167.97	0.46
Truckee	Lower	6619.957	Max WS	21297.46	4370.08	4390.80		4392.46	0.001242	10.44	2203.18	167.03	0.44
Truckee	Lower	6682.363	Max WS	21297.55	4370.05	4390.88		4392.55	0.001272	10.55	2279.87	195.88	0.45
Truckee	Lower	6735.577	Max WS	21297.20	4370.10	4391.07		4392.59	0.001176	10.06	2344.95	192.69	0.43
Truckee	Lower	6812.174	Max WS	21297.33	4370.05	4391.13		4392.73	0.001218	10.59	2470.78	216.23	0.43
Truckee	Lower	6887.051	Max WS	21297.32	4370.20	4391.60		4392.71	0.000762	8.64	2763.79	193.36	0.35
Truckee	Lower	6976.295	Max WS	21297.67	4370.20	4391.51		4392.79	0.000866	9.20	2514.49	168.77	0.38
Truckee	Lower	7131.793	Max WS	21297.29	4370.20	4391.28		4392.97	0.001561	10.45	2038.23	136.95	0.48
Truckee	Lower	7258.546	Max WS	21297.04	4370.21	4392.27		4393.08	0.000641	7.25	2966.56	196.74	0.32
Truckee	Lower	7406.445	Max WS	21297.67	4370.23	4392.49		4393.17	0.000546	6.60	3502.43	286.49	0.28
Truckee	Lower	7511.357	Max WS	21297.05	4370.24	4392.52		4393.24	0.000571	6.88	3829.23	374.33	0.28
Truckee	Lower	7664.775	Max WS	21297.27	4370.25	4392.54		4393.35	0.000644	7.27	3698.42	375.70	0.30
Truckee	Lower	7820.225	Max WS	21297.59	4370.26	4392.80		4393.41	0.000659	6.32	4100.41	389.15	0.25
Truckee	Lower	7961.973	Max WS	21297.67	4370.27	4392.84		4393.53	0.000785	6.75	3989.42	382.61	0.28
Truckee	Lower	8090.012	Max WS	21297.97	4370.29	4392.95		4393.63	0.000752	6.71	4341.36	466.65	0.27
Truckee	Lower	8228.509	Max WS	21298.68	4370.29	4393.01		4393.78	0.000899	7.22	4530.45	530.74	0.30
Truckee	Lower	8388.340	Max WS	21298.39	4370.33	4393.16		4393.93	0.000873	7.30	4923.63	615.46	0.30
Truckee	Lower	8490.330	Max WS	21298.37	4370.40	4393.29		4393.98	0.000773	6.85	5093.75	629.83	0.28
Truckee	Lower	8817.348	Max WS	21298.60	4370.50	4393.45		4394.02	0.000663	6.21	6335.19	668.07	0.26
Truckee	Lower	8745.655	Max WS	21298.65	4370.61	4393.53		4394.11	0.000648	6.28	4886.05	696.12	0.26
Truckee	Lower	8898.097	Max WS	21298.69	4370.74	4393.64		4394.23	0.000694	6.53	4613.12	717.34	0.27
Truckee	Lower	9064.256	Max WS	21300.05	4370.88	4393.81		4394.33	0.000644	6.24	4905.37	750.24	0.26
Truckee	Lower	9124.953	Max WS	21298.62	4370.94	4393.81		4394.38	0.000667	6.44	4686.55	710.88	0.26
Truckee	Lower	9234.001	Max WS	21298.63	4371.04	4393.65		4394.51	0.000927	7.53	3490.34	546.90	0.31
Truckee	Lower	9385.354	Max WS	21299.29	4371.18	4393.92		4394.59	0.000749	6.78	4678.77	496.05	0.27
Truckee	Lower	9584.751	Max WS	21299.61	4371.38	4394.05		4394.76	0.000799	7.00	4628.48	551.97	0.28
Truckee	Lower	9758	Lat Struct										
Truckee	Lower	9759.033	Max WS	21300.35	4371.68	4394.21		4394.92	0.000926	7.03	4435.84	475.94	0.30
Truckee	Lower	9901.465	Max WS	21300.19	4371.55	4394.46		4394.95	0.000514	5.75	4861.18	436.34	0.23
Truckee	Lower	10054.85	Max WS	21300.21	4371.41	4394.53		4395.02	0.000513	5.73	4590.20	374.36	0.23
Truckee	Lower	10237.23	Max WS	21300.49	4371.18	4394.61		4395.11	0.000516	5.76	4109.33	330.93	0.23
Truckee	Lower	10411.34	Max WS	21301.05	4371.06	4394.62		4395.24	0.000630	6.42	4253.07	334.14	0.25
Truckee	Lower	10562.53	Max WS	21301.27	4371.23	4394.76		4395.31	0.000562	6.05	4181.54	315.61	0.24
Truckee	Lower	10738.99	Max WS	21301.31	4371.28	4394.79		4395.43	0.000719	6.45	3472.69	228.33	0.27
Truckee	Lower	10929.09	Max WS	21301.02	4371.10	4395.09		4395.53	0.000474	5.38	4245.47	297.97	0.22
Truckee	Lower	11083.70	Max WS	21301.36	4371.07	4395.23		4395.59	0.000344	4.93	4743.83	301.61	0.19
Truckee	Lower	11233	Lat Struct										
Truckee	Lower	11234.17	Max WS	21301.79	4371.29	4395.07		4395.72	0.000701	6.73	3813.20	302.79	0.27
Truckee	Lower	11383.49	Max WS	21302.07	4371.25	4395.18		4395.82	0.000672	6.64	3858.91	290.26	0.26
Truckee	Lower	11495.09	Max WS	21302.12	4371.13	4395.30		4395.88	0.000640	6.38	3824.41	244.49	0.25
Truckee	Lower	11617.76	Max WS	21302.56	4371.14	4395.26		4395.97	0.000761	6.88	3343.04	212.01	0.28
Truckee	Lower	11704.35	Max WS	21301.76	4371.18	4395.28		4396.04	0.000825	7.05	3202.00	203.97	0.29
Truckee	Lower	11819.83	Max WS	21301.97	4371.16	4395.34		4396.13	0.000875	7.21	3099.11	199.81	0.29
Truckee	Lower	11921.75	Max WS	21302.17	4371.16	4395.48		4396.22	0.000771	6.92	3219.92	196.72	0.28
Truckee	Lower	12052.52	Max WS	21302.44	4371.17	4395.59		4396.31	0.000774	6.88	3231.87	197.89	0.28
Truckee	Lower	12194.80	Max WS	21303.23	4371.00	4395.91		4396.39	0.000455	5.59	3913.78	200.07	0.21
Truckee	Lower	12289	Lat Struct										
Truckee	Lower	12290.45	Max WS	21301.93	4369.75	4395.98		4396.43	0.000413	5.40	4066.18	209.01	0.20
Truckee	Lower	12411.23	Max WS	21302.20	4370.97	4395.98		4396.49	0.000483	5.76	3858.44	219.16	0.22
Truckee	Lower	12558	Lat Struct										
Truckee	Lower	12559.40	Max WS	21303.46	4370.72	4396.15		4396.55	0.000386	5.09	4357.14	313.70	0.20
Truckee	Lower	12674.60	Max WS	21302.64	4371.11	4396.30		4396.58	0.000233	4.25	5160.57	301.95	0.17
Truckee	Middle	12793.06	Max WS	15104.81	4371.02	4396.30		4396.52	0.000157	3.84	4505.88	288.08	0.15
Truckee	Middle	12863.59	Max WS	13968.49	4371.08	4396.34		4396.57	0.000176	4.01	4083.13	270.07	0.16
Truckee	Middle	13012.33	Max WS	12760.34	4371.32	4396.91		4396.65	0.000283	4.71	2922.29	198.57	0.19
Truckee	Middle	13144.50	Max WS	11634.99	4371.56	4396.42		4396.73	0.000271	4.57	2681.10	184.75	0.19
Truckee	Middle	13260	Lat Struct										
Truckee	Middle	13261	Lat Struct										
Truckee	Middle	13261.42	Max WS	10792.04	4371.78	4396.55		4396.80	0.000222	4.01	2724.28	182.60	0.17
Truckee	Middle	13313.60	Max WS	10791.54	4371.86	4396.60		4396.81	0.000164	3.71	2987.96	180.18	0.15
Truckee	Upper	13390.04	Max WS	9072.28	4372.00	4396.60		4396.73	0.000104	2.96	3119.25	184.08	0.12
Truckee	Upper	13518.64	Max WS	8449.19	4372.24	4396.63		4396.77	0.000107	2.98	2940.39	183.77	0.12
Truckee	Upper	13690.82	Max WS	7876.14	4372.55	4396.68		4396.81	0.000124	2.86	2782.63	187.81	0.13
Truckee	Upper	13849.40	Max WS	7620.92	4372.75	4396.71		4396.83	0.000114	2.80	2741.93	180.16	0.12
Truckee	Upper	14023.34	Max WS	7171.94	4372.81	4396.75		4396.87	0.000110	2.77	2614.31	168.85	0.12
Truckee	Upper	14202.16	Max WS	7147.32	4372.87	4396.79		4396.88	0.000090	2.49	2875.75	182.74	0.11

HEC-RAS Plan: SA dev S+N Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev. (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	14346.78	Max WS	7278.24	4372.92	4396.78		4396.89	0.000089	2.71	2787.85	180.53	0.11
Truckee	Upper	14544.98	Max WS	7351.69	4372.98	4396.79		4396.91	0.000101	2.82	2703.43	193.52	0.12
Truckee	Upper	14767.08	Max WS	7613.69	4373.05	4396.79		4396.93	0.000112	2.95	2644.85	168.85	0.13
Truckee	Upper	15056			Lat Struct								
Truckee	Upper	15057.88	Max WS	8159.23	4373.13	4396.81		4396.94	0.000104	2.94	2977.69	219.16	0.12
Truckee	Upper	15300.51	Max WS	8080.30	4373.19	4396.84		4396.97	0.000110	2.92	2870.75	197.03	0.13
Truckee	Upper	15528.35	Max WS	7450.96	4373.25	4396.88		4397.01	0.000110	2.94	2637.47	194.53	0.12
Truckee	Upper	15769			Lat Struct								
Truckee	Upper	15769.99	Max WS	7229.87	4373.08	4396.92		4397.05	0.000124	2.91	2493.69	163.36	0.13
Truckee	Upper	15920			Lat Struct								
Truckee	Upper	15921.59	Max WS	6494.44	4372.98	4397.00		4397.09	0.000076	2.30	2844.77	191.18	0.10
Truckee	Upper	16122.58	Max WS	5561.11	4372.87	4397.04		4397.13	0.000072	2.37	2436.36	157.21	0.10
Truckee	Upper	16306.12	Max WS	5129.18	4372.71	4397.09		4397.15	0.000041	1.84	2860.18	171.74	0.08
Truckee	Upper	16452.05	Max WS	5083.13	4372.50	4397.09		4397.15	0.000051	2.01	2609.68	163.95	0.08
Truckee	Upper	16620.83	Max WS	5043.23	4372.97	4397.10		4397.17	0.000072	2.14	2408.97	182.86	0.10
Truckee	Upper	16794.88	Max WS	5093.10	4373.41	4397.12		4397.17	0.000052	1.88	2713.36	186.71	0.09
Truckee	Upper	17030.21	Max WS	5302.38	4373.79	4397.13		4397.18	0.000039	1.82	2982.81	180.95	0.08
Truckee	Upper	17231			Lat Struct								
Truckee	Upper	17232.01	Max WS	5581.07	4373.87	4397.13		4397.19	0.000046	1.95	3107.55	238.27	0.08
Truckee	Upper	17433.06	Max WS	5720.00	4373.91	4397.13		4397.19	0.000054	2.12	2967.17	230.73	0.09
Truckee	Upper	17594			Lat Struct								
Truckee	Upper	17595.00	Max WS	5974.74	4373.92	4397.14		4397.19	0.000040	1.88	3328.21	213.35	0.08
Truckee	Upper	17774.81	Max WS	6204.84	4373.90	4397.13		4397.20	0.000057	2.14	3240.69	277.17	0.09
Truckee	Upper	17968.96	Max WS	6446.08	4373.85	4397.13		4397.21	0.000056	2.17	3096.98	210.42	0.09
Truckee	Upper	18117.31	Max WS	6548.14	4373.82	4397.13		4397.21	0.000076	2.40	2819.13	201.54	0.10
Truckee	Upper	18285			Lat Struct								
Truckee	Upper	18286.70	Max WS	6762.28	4374.02	4397.14		4397.22	0.000063	2.29	3198.06	250.46	0.10
Truckee	Upper	18488.74	Max WS	7070.26	4374.29	4397.15		4397.23	0.000059	2.19	3443.09	266.24	0.09
Truckee	Upper	18690.00	Max WS	7356.45	4374.58	4397.14		4397.24	0.000089	2.56	3039.98	248.39	0.11
Truckee	Upper	18915.19	Max WS	7736.46	4374.90	4397.13		4397.25	0.000118	2.75	2897.59	219.03	0.13
Truckee	Upper	19172			Lat Struct								
Truckee	Upper	19173.34	Max WS	8159.70	4375.30	4397.14		4397.27	0.000112	2.82	2969.04	216.22	0.12
Truckee	Upper	19428.21	Max WS	8397.49	4375.70	4397.14		4397.29	0.000158	3.19	2715.86	224.44	0.15
Truckee	Upper	19646.39	Max WS	8560.65	4376.06	4397.14		4397.32	0.000177	3.41	2551.04	187.27	0.16
Truckee	Upper	19800			Lat Struct								
Truckee	Upper	19871.73	Max WS	8555.60	4376.43	4397.17		4397.38	0.000240	3.72	2654.89	298.67	0.18
Truckee	Upper	20102.60	Max WS	8370.05	4376.84	4397.23		4397.45	0.000253	3.85	2532.24	283.08	0.18
Truckee	Upper	20349.62	Max WS	8623.14	4377.29	4397.24		4397.52	0.000336	4.40	2362.74	286.86	0.21
Truckee	Upper	20652.04	Max WS	9401.89	4377.85	4397.33		4397.55	0.000219	3.90	2839.55	269.20	0.17
Truckee	Upper	20878			Lat Struct								
Truckee	Upper	20879.99	Max WS	10022.80	4378.31	4397.25		4397.61	0.000398	5.00	2357.73	242.01	0.23
Truckee	Upper	21090			Lat Struct								
Truckee	Upper	21091.93	Max WS	10475.31	4378.69	4397.36		4397.66	0.000381	4.43	2623.38	288.28	0.22
Truckee	Upper	21263.33	Max WS	10655.48	4379.05	4397.46		4397.71	0.000313	4.07	2996.83	339.31	0.20
Truckee	Upper	21437			Lat Struct								
Truckee	Upper	21438.30	Max WS	10653.66	4379.43	4397.49		4397.78	0.000446	4.48	2804.71	447.22	0.24
Truckee	Upper	21650.04	Max WS	10763.91	4379.87	4397.57		4397.86	0.000350	4.42	2851.31	438.20	0.22
Truckee	Upper	21817.75	Max WS	10952.49	4380.22	4397.66		4397.90	0.000362	3.96	2785.36	271.38	0.21
Truckee	Upper	21974			Lat Struct								
Truckee	Upper	21975.48	Max WS	11771.99	4380.50	4397.59		4397.92	0.000396	4.60	2569.50	212.92	0.23
Truckee	Upper	22100			Lat Struct								
Truckee	Upper	22176.73	Max WS	11807.55	4380.68	4397.52		4398.03	0.000684	5.76	2122.71	224.98	0.30
Truckee	Upper	22234			Lat Struct								
Truckee	Upper	22335.52	Max WS	11750.26	4381.00	4397.49		4398.18	0.001040	6.74	1842.79	220.51	0.36
Truckee	Upper	22503.45	Max WS	11686.75	4381.30	4397.73		4398.34	0.000841	6.26	1867.10	161.46	0.32
Truckee	Upper	22698			Lat Struct								
Truckee	Upper	22697			Lat Struct								
Truckee	Upper	22698.58	Max WS	11711.70	4381.60	4398.13		4398.46	0.000476	4.58	2594.48	259.91	0.25
Truckee	Upper	22944.66	Max WS	11843.81	4382.22	4398.17		4398.60	0.000526	5.58	2542.82	238.45	0.27
Truckee	Upper	23112.71	Max WS	12030.99	4382.48	4398.28		4398.67	0.000683	5.02	2410.40	262.49	0.29
Truckee	Upper	23262			Lat Struct								
Truckee	Upper	23263.74	Max WS	12142.98	4382.79	4398.20		4398.80	0.001028	6.22	1962.80	221.54	0.35
Truckee	Upper	23433.78	Max WS	12224.33	4383.09	4398.17		4398.99	0.001324	7.26	1688.03	182.12	0.40
Truckee	Upper	23608			Lat Struct								
Truckee	Upper	23609.90	Max WS	12364.26	4383.51	4398.72		4399.15	0.000614	5.29	2403.26	260.10	0.28
Truckee	Upper	23764.74	Max WS	12942.20	4383.78	4398.70		4399.21	0.000606	5.75	2370.85	221.57	0.28
Truckee	Upper	23902			Lat Struct								
Truckee	Upper	23903.66	Max WS	13727.84	4384.11	4398.61		4399.25	0.000796	6.48	2257.89	243.50	0.32
Truckee	Upper	24094.85	Max WS	14018.75	4384.41	4398.31		4399.45	0.001549	8.57	1688.99	196.86	0.44
Truckee	Upper	24231			Lat Struct								
Truckee	Upper	24232.12	Max WS	14437.06	4384.69	4398.54		4399.63	0.001520	8.45	1851.58	229.76	0.44
Truckee	Upper	24373.14	Max WS	15032.13	4384.99	4398.87		4399.85	0.001809	7.98	1912.09	242.04	0.47
Truckee	Upper	24558.98	Max WS	15648.61	4385.29	4399.26		4400.10	0.001143	7.61	2476.62	316.49	0.38
Truckee	Upper	24749.13	Max WS	15854.79	4385.68	4399.67		4400.20	0.000656	6.03	3010.14	337.32	0.30
Truckee	Upper	24897.16	Max WS	15914.46	4385.87	4399.66		4400.32	0.000840	6.76	2711.54	285.31	0.33
Truckee	Upper	25043.05	Max WS	15916.97	4386.20	4399.12		4400.71	0.002335	10.35	1784.30	247.83	0.54

HEC-RAS Plan: SA dev S+N Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev.	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Truckee	Upper	28319			Lat Struct								
Truckee	Upper	28320.47	Max WS	15983.41	4386.70	4400.29		4401.10	0.001244	7.21	2216.49	213.47	0.39
Truckee	Upper	28557.57	Max WS	15983.85	4387.21	4400.54		4401.40	0.001292	7.47	2148.67	209.33	0.40
Truckee	Upper	28685.79	Max WS	15976.56	4387.39	4400.32		4401.63	0.002144	9.19	1746.49	187.06	0.51
Truckee	Upper	25785		Lat Struct									
Truckee	Upper	25786		Lat Struct									
Truckee	Upper	25787.10	Max WS	15976.66	4387.64	4400.35		4401.89	0.003135	9.98	1600.50	190.36	0.61
Truckee	Upper	25800		Bridge									
Truckee	Upper	25935.87	Max WS	15984.93	4388.73	4400.86	4397.72	4402.50	0.002838	10.30	1608.98	212.26	0.59
Truckee	Upper	26056.23	Max WS	15371.84	4388.90	4400.76		4403.09	0.004351	12.27	1254.90	147.85	0.72
Truckee	Upper	26167.21	Max WS	15093.44	4389.06	4401.70		4403.58	0.003089	11.03	1387.13	152.66	0.61
Truckee	Upper	26319.22	Max WS	14915.92	4388.73	4402.62		4404.01	0.002092	9.50	1675.53	223.09	0.51
Truckee	Upper	26464		Lat Struct									
Truckee	Upper	26465.88	Max WS	14704.97	4388.66	4402.61		4404.45	0.003150	10.90	1394.26	200.26	0.62
Truckee	Upper	26588.41	Max WS	14602.33	4388.96	4403.40		4404.80	0.002535	9.48	1555.37	197.24	0.55
Truckee	Upper	26711.46	Max WS	14718.45	4388.03	4403.78		4405.04	0.001730	9.00	1644.15	159.10	0.47
Truckee	Upper	26853		Lat Struct									
Truckee	Upper	26854.46	Max WS	14838.89	4389.25	4403.59		4405.36	0.003068	10.70	1393.38	148.68	0.61
Truckee	Upper	27010		Lat Struct									
Truckee	Upper	27011.59	Max WS	15018.45	4390.45	4404.63		4405.69	0.001624	8.77	2167.84	273.82	0.45
Truckee	Upper	27150.44	Max WS	15510.29	4390.74	4404.92		4405.80	0.001329	7.86	2261.23	234.41	0.41
Truckee	Upper	27281		Lat Struct									
Truckee	Upper	27282.45	Max WS	15733.18	4390.83	4405.04		4405.93	0.001317	7.56	2080.48	192.24	0.41
Truckee	Upper	27427.44	Max WS	15827.89	4390.31	4405.16		4406.12	0.001539	7.88	2008.16	197.54	0.43
Truckee	Upper	27571.37	Max WS	15845.88	4391.53	4404.42		4406.62	0.003690	12.19	1436.79	165.09	0.67
Truckee	Upper	27678		Lat Struct									
Truckee	Upper	27879.10	Max WS	15844.62	4391.80	4404.30		4407.13	0.004936	13.76	1261.60	153.73	0.77
Truckee	Upper	27840.41	Max WS	15847.91	4391.73	4406.04		4407.60	0.002485	10.29	1741.26	204.65	0.55
Truckee	Upper	27953.75	Max WS	15910.81	4391.89	4406.50		4407.80	0.001983	9.38	1873.61	208.64	0.50
Truckee	Upper	28078		Lat Struct									
Truckee	Upper	28079.65	Max WS	16008.35	4392.21	4406.71		4408.02	0.002119	9.18	1762.51	199.35	0.51
Truckee	Upper	28333		Lat Struct									
Truckee	Upper	28334.18	Max WS	16324.86	4392.92	4407.28		4408.45	0.001695	8.71	1884.40	179.59	0.46
Truckee	Upper	28560		Lat Struct									
Truckee	Upper	28561.76	Max WS	16043.61	4393.85	4407.81		4408.86	0.001529	8.23	1948.89	181.61	0.44
Truckee	Upper	28777.22	Max WS	15908.51	4394.54	4408.23		4409.19	0.001405	7.89	2018.35	188.19	0.42
Truckee	Upper	28966.09	Max WS	15614.53	4394.76	4408.41		4409.59	0.001892	8.76	1865.40	216.14	0.49
Truckee	Upper	29163		Lat Struct									
Truckee	Upper	29164.29	Max WS	15870.13	4395.37	4408.75		4409.87	0.001644	8.56	1996.42	241.70	0.46
Truckee	Upper	29422.51	Max WS	16805.99	4395.58	4408.80		4410.34	0.003122	9.97	1697.96	208.57	0.60
Truckee	Upper	29634		Lat Struct									
Truckee	Upper	29835.25	Max WS	17202.52	4396.01	4409.22		4410.91	0.002751	10.53	1743.51	222.18	0.59
Truckee	Upper	29931.50	Max WS	18098.58	4396.44	4410.06		4411.48	0.002252	9.60	1968.42	227.98	0.53
Truckee	Upper	30210		Lat Struct									
Truckee	Upper	30211.71	Max WS	18390.53	4397.40	4410.52		4412.40	0.003724	11.66	1970.68	296.32	0.67
Truckee	Upper	30509.03	Max WS	18390.84	4397.79	4411.63		4413.32	0.002913	10.86	1974.42	245.44	0.60
Truckee	Upper	30798		Lat Struct									
Truckee	Upper	30789.09	Max WS	18416.69	4397.85	4412.50		4414.13	0.003411	10.26	1794.91	216.58	0.63
Truckee	Upper	31037.96	Max WS	18672.92	4398.21	4413.74		4414.71	0.001586	7.91	2366.93	245.25	0.44
Truckee	Upper	31273.71	Max WS	18986.74	4400.22	4413.91		4415.07	0.001617	8.73	2313.62	250.52	0.46
Truckee	Upper	31522		Lat Struct									
Truckee	Upper	31523.22	Max WS	18991.60	4401.01	4414.30		4415.49	0.001770	8.86	2266.45	261.26	0.48
Truckee	Upper	31795.06	Max WS	19035.88	4401.29	4414.42		4416.11	0.002751	10.49	1867.53	221.85	0.58
Truckee	Upper	31963.03	Max WS	19036.28	4401.58	4414.75		4416.64	0.003469	11.03	1755.07	219.63	0.66
Truckee	Upper	32100.13	Max WS	19036.21	4401.78	4415.16		4417.12	0.003400	11.28	1749.73	240.46	0.65
Truckee	Upper	32219		Lat Struct									
Truckee	Upper	32220		Lat Struct									
Truckee	Upper	32220.09	Max WS	19069.04	4401.83	4415.92		4417.43	0.002265	9.89	1970.98	216.18	0.53
Truckee	Upper	32300		Bridge									
Truckee	Upper	32323.85	Max WS	19068.53	4403.13	4416.30	4412.37	4417.83	0.002257	9.96	1946.27	210.49	0.54
Truckee	Upper	32391.38	Max WS	19068.50	4403.64	4415.81		4418.06	0.003597	12.06	1626.75	189.52	0.67
Truckee	Upper	32460.36	Max WS	18910.24	4403.96	4416.67		4418.27	0.002435	10.23	1944.06	233.18	0.56
Truckee	Upper	32566.20	Max WS	18728.17	4404.43	4417.33		4418.50	0.001773	8.89	2348.60	288.84	0.48
Truckee	Upper	32707.99	Max WS	18491.60	4405.04	4417.65		4418.81	0.001946	8.90	2446.49	360.83	0.49
Truckee	Upper	32851.30	Max WS	18367.46	4405.68	4417.69		4419.23	0.002958	10.22	2149.10	414.60	0.60
Truckee	Upper	32983		Lat Struct									
Truckee	Upper	32984.21	Max WS	18300.25	4406.26	4418.04		4419.65	0.003420	10.34	2022.24	435.92	0.64
Truckee	Upper	33141.24	Max WS	18360.65	4406.88	4419.12		4419.91	0.001399	7.49	3048.33	455.53	0.42
Truckee	Upper	33318.83	Max WS	18422.38	4407.51	4419.30		4420.20	0.001894	7.86	2739.28	438.20	0.48
Truckee	Upper	33477.26	Max WS	18422.90	4408.00	4419.07		4420.60	0.002854	9.93	1855.48	207.52	0.59
Truckee	Upper	33642		Lat Struct									
Truckee	Upper	33642.99	Max WS	18423.46	4409.14	4419.68		4421.06	0.002747	9.44	1990.74	459.08	0.57
Truckee	Upper	33812.80	Max WS	18424.30	4409.29	4419.83		4421.64	0.003762	10.81	1797.97	351.75	0.66
Truckee	Upper	33931		Lat Struct									
Truckee	Upper	33932.07	Max WS	18428.39	4409.06	4420.59		4422.03	0.003087	9.64	1949.74	262.61	0.60
Truckee	Upper	34046.91	Max WS	18431.10	4409.39	4420.33		4422.51	0.006129	11.85	1561.74	443.16	0.76

HEC-RAS Plan: SA dev S+N Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Truckee	Upper	34238.54	Max WS	18461.56	4409.87	4421.69	4419.09	4423.30	0.003522	10.24	1972.59	704.46	0.64
Truckee	Upper	34453			Lat Struct								
Truckee	Upper	34454.76	Max WS	18661.52	4410.63	4422.21		4424.21	0.003771	11.77	2166.48	801.56	0.68
Truckee	Upper	34676.91	Max WS	19046.84	4410.29	4422.68		4424.97	0.004353	12.15	1567.81	568.71	0.72
Truckee	Upper	34935.32	Max WS	19051.01	4410.80	4423.46		4426.29	0.005802	13.51	1410.03	508.25	0.82
Truckee	Upper	35260			Lat Struct								
Truckee	Upper	35261.04	Max WS	19052.14	4411.25	4425.85		4427.65	0.002780	10.80	1887.12	715.31	0.59
Truckee	Upper	35351			Lat Struct								
Truckee	Upper	35352.36	Max WS	19051.57	4411.42	4426.06		4427.90	0.002522	11.01	1877.78	211.97	0.57
Truckee	Upper	35400			Bridge								
Truckee	Upper	35466.25	Max WS	19052.08	4411.57	4428.02	4422.21	4429.12	0.001294	8.68	2569.06	618.54	0.42
Truckee	Upper	35606.05	Max WS	19051.45	4411.78	4428.16		4429.23	0.001206	8.30	2312.57	576.16	0.40
Truckee	Upper	35730.91	Max WS	19052.01	4412.07	4428.14		4429.41	0.001687	9.04	2114.98	534.05	0.47
Truckee	Upper	35849			Lat Struct								
Truckee	Upper	35850			Lat Struct								
Truckee	Upper	35851.46	Max WS	19052.63	4413.29	4428.39		4429.62	0.001683	8.93	2190.60	568.11	0.47
Truckee	Upper	35919			Inl Struct								
Truckee	Upper	36059.71	Max WS	19051.08	4417.93	4431.30	4427.48	4432.35	0.001749	8.72	3037.54	578.20	0.47
Truckee	Upper	36209.78	Max WS	19076.43	4418.30	4430.67	4428.59	4433.01	0.003900	12.37	1756.00	477.09	0.69
Truckee	Upper	36391.32	Max WS	19226.41	4418.31	4432.06		4433.42	0.002285	9.92	2630.24	466.29	0.54
Truckee	Upper	36568			Lat Struct								
Truckee	Upper	36569.41	Max WS	19533.25	4418.08	4432.09		4433.92	0.003100	11.13	2116.23	377.99	0.62
Truckee	Upper	36725.76	Max WS	19899.97	4418.04	4432.67		4434.34	0.002990	10.69	2275.41	453.70	0.60
Truckee	Upper	36929.19	Max WS	20190.85	4417.88	4433.57		4434.73	0.002114	9.41	3182.88	628.90	0.51
Truckee	Upper	37156			Lat Struct								
Truckee	Upper	37157			Lat Struct								
Truckee	Upper	37157.78	Max WS	20657.12	4418.82	4433.38		4435.65	0.005485	12.09	1708.34	543.23	0.78
Truckee	Upper	37430.40	Max WS	20658.91	4420.25	4435.42		4436.83	0.003513	9.59	2371.51	812.22	0.63
Truckee	Upper	37723			Lat Struct								
Truckee	Upper	37724.79	Max WS	20716.07	4421.93	4434.74	4434.49	4438.78	0.007904	16.13	1286.38	348.87	0.96
Truckee	Upper	37946.04	Max WS	20725.68	4422.77	4438.07		4439.62	0.002382	10.11	2353.71	541.28	0.55
Truckee	Upper	38183			Lat Struct								
Truckee	Upper	38184.85	Max WS	20726.70	4423.49	4438.60		4440.11	0.002109	9.84	2105.89	189.02	0.52
Truckee	Upper	38371.89	Max WS	20727.21	4424.00	4439.55		4440.42	0.001321	7.80	3215.96	371.46	0.41
Truckee	Upper	38400			Bridge								
Truckee	Upper	38526	Max WS	20727.84	4424.10	4439.95	4435.41	4440.99	0.001607	8.47	3149.57	467.51	0.45
Truckee	Upper	38546.68	Max WS	20727.94	4425.00	4440.09		4440.97	0.001780	7.55	2828.21	459.19	0.46
Truckee	Upper	38790			Inl Struct								
Truckee	Upper	38793.61	Max WS	20726.57	4431.28	4444.16	4441.46	4445.20	0.002015	8.59	3869.40	1118.72	0.52
Truckee	Upper	38891.88	Max WS	20727.12	4431.47	4444.29		4445.44	0.002208	9.01	3582.05	1033.18	0.54
Truckee	Upper	39038.50	Max WS	20728.14	4431.07	4444.41		4446.05	0.002669	10.91	3410.64	954.59	0.61
Truckee	Upper	39325.14	Max WS	20728.28	4431.41	4445.18		4446.57	0.002210	9.93	3412.79	810.67	0.56
Truckee	Upper	39587.24	Max WS	20728.76	4431.68	4445.52		4447.09	0.002317	10.17	2669.37	921.11	0.57
Truckee	Upper	39763.07	Max WS	20729.71	4431.91	4446.00		4447.50	0.002021	10.06	2632.69	550.18	0.54
Truckee	Upper	39956.88	Max WS	20730.70	4432.13	4446.27		4447.94	0.002239	10.55	2567.57	691.85	0.56
Truckee	Upper	40145.43	Max WS	20731.60	4432.42	4446.87		4448.44	0.002034	10.71	2826.57	776.39	0.55
Truckee	Upper	40324.24	Max WS	20732.16	4432.83	4446.62	4444.96	4449.01	0.003947	12.54	1904.80	565.21	0.73
Truckee	Upper	40471.90	Max WS	20730.96	4433.17	4447.34	4445.29	4449.50	0.003543	11.86	1949.08	589.39	0.69
Truckee	Upper	40652.89	Max WS	20733.15	4433.56	4448.34		4450.00	0.002639	10.53	2347.21	522.60	0.60
Truckee	Upper	40837.92	Max WS	20733.21	4433.92	4449.00		4450.38	0.002087	9.51	2511.24	434.75	0.54
Truckee	Upper	41084.64	Max WS	20732.34	4434.37	4449.31		4450.98	0.002819	10.35	2003.01	196.66	0.57
Truckee	Upper	41236.61	Max WS	20732.08	4434.25	4449.65		4451.40	0.002781	10.62	1952.52	178.59	0.56
Truckee	Upper	41361.23	Max WS	20733.43	4433.96	4449.94		4451.72	0.002329	10.70	1936.84	176.84	0.57
Truckee	Upper	41521.41	Max WS	20733.11	4433.97	4449.78		4452.16	0.003054	12.38	1674.28	149.32	0.65
Truckee	Upper	41611.80	Max WS	20732.37	4434.02	4450.85		4452.37	0.001833	9.87	2101.32	181.21	0.51